

## PREFACE

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The amendments in this publication include the following:

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	HW104ft	November 20, 2008
Part IX. Underground Storage Tanks	UT014	October 20, 2008
Part XV. Radiation Protection	RP048ft	October 20, 2008
	RP048ft repromulgation	November 20, 2008
	RP050ft	October 20, 2008

Log # Suffix Key:

ft – Fast-Track Rule - Federal regulations promulgated in accordance with expedited procedures in R.S. 49:953(F)(3)

F – Federal Language

L – Louisiana Language

S – Substantive Changes to Proposed Rule

P – Rule resulting from a Petition for Rulemaking

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Environmental Regulatory Code Editor

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**Title 33**  
**ENVIRONMENTAL QUALITY**

**Control Programs**

**§223. Fee Schedule Listing**

**Part III. Air**

Table 1. ...

**Chapter 2. Rules and Regulations for  
the Fee System of the Air Quality**

<b>Table 2</b>		
<b>Additional Fees</b>		
<b>Fee Number</b>	<b>Fee Description</b>	<b>Amount</b>
***		
[See Prior Text in Fee Numbers 2000–2015]		
2020	The Issuance of an Asbestos Disposal Verification Form (ADVF)—(at least 10 working days notification given)—Fee is nontransferable and nonrefundable.	66.00
2030	The Issuance of an Asbestos Disposal Verification Form (ADVF)—(less than 10 working days notification given)—Fee is nontransferable and nonrefundable.	99.00
2040	Agent Accreditation for Asbestos: Includes Contractor/Supervisor, Inspector, Management Planner, or Project Designer—Normal Application Processing per Discipline (greater than five working days after receipt of required documentation and fees)—Fee is nontransferable and nonrefundable.	264.00
2050	Agent Accreditation for Asbestos: Includes Contractor/Supervisor, Inspector, Management Planner, or Project Designer—Emergency Application Processing per Discipline (less than or equal to five working days after receipt of required documentation and fees)—Fee is nontransferable and nonrefundable.	396.00
2060	Worker Accreditation for Asbestos—Normal Application Processing (greater than five working days after receipt of required documentation and fees)—Fee is nontransferable and nonrefundable.	66.00
2070	Worker Accreditation for Asbestos—Emergency Application Processing (less than or equal to five working days after receipt of required documentation and fees)—Fee is nontransferable and nonrefundable.	99.00
2080	Duplicate Certificate—Fee is nontransferable and nonrefundable.	33.00
2090	Asbestos Training Organization Recognition Plus Trainer Recognition per Trainer—Normal Application Processing (greater than five working days after receipt of required documentation and fees)—Fee is nontransferable and nonrefundable.	396.00 66.00
2100	Asbestos Training Organization Recognition Plus Trainer Recognition per Trainer—Emergency Application Processing (less than or equal to five working days after receipt of required documentation and fees)—Fee is nontransferable and nonrefundable.	594.00 99.00
***		
[See Prior Text in Fee Numbers 2200–2810]		
2900 *Note 19*	Lead Contractor License Evaluation Processing Fee—Fee is nontransferable and nonrefundable.	500.00
2901 *Note 19*	Lead Project Supervisor Accreditation Application Processing Fee—Fee is nontransferable and nonrefundable.	250.00
2902 *Note 19*	Lead Project Designer Accreditation Application Processing Fee—Fee is nontransferable and nonrefundable.	500.00
2903 *Note 19*	Lead Risk Assessor Accreditation Application Processing Fee—Fee is nontransferable and nonrefundable.	250.00
2904 *Note 19*	Lead Inspector Accreditation Application Processing Fee—Fee is nontransferable and nonrefundable.	150.00
2905 *Note 19*	Lead Worker Accreditation Application Processing Fee—Fee is nontransferable and nonrefundable.	50.00
2906 *Note 19*	Recognition Application Processing Fee for In-State Louisiana Lead Training Organizations per Training Organization—Fee is nontransferable and nonrefundable.	500.00
2907 *Note 19*	Recognition Application Processing Fee for Louisiana Lead Training Organizations per Instructor—Fee is nontransferable and nonrefundable.	50.00
2908 *Note 19*	Recognition Application Processing Fee for Out of State Lead Training Organizations per Out of State Training Organization—Fee is nontransferable and nonrefundable.	750.00

## Title 33, Part III

Table 2		
Additional Fees		
Fee Number	Fee Description	Amount
2909 *Note 19*	Recognition Application Processing Fee for Out of State Lead Training Organizations per Instructor—Fee is nontransferable and nonrefundable.	100.00
2910 *Note 19*	Lead Abatement Project Notification Processing Fee, 2000 Square Feet and under—Fee is nontransferable and nonrefundable.	200.00
2911 *Note 19*	Lead Abatement Project Notification Processing Fee for Each Additional Increment of 2000 Square Feet or Portion Thereof—Fee is nontransferable and nonrefundable.	100.00
2912 *Note 19*	Lead Abatement Project Notification Processing Fee (Fee Per Revision)—Fee is nontransferable and nonrefundable.	50.00
2913 *Note 19*	Soil Lead Abatement Project Notification Processing Fee, Half Acre or Less—Fee is nontransferable and nonrefundable.	200.00
2914 *Note 19*	Soil Lead Abatement Project Notification Processing Fee, Each Additional Half Acre or Portion Thereof—Fee is nontransferable and nonrefundable.	100.00

Explanatory Notes for Fee Schedule  
Note 1. – Note 18. ...

Note 19. The fee for emergency processing will be 1.5 times the regular fees.

Processing Timelines		
Notification or Application	Normal Processing	Emergency Processing
Asbestos and Lead Training Organizations' and Trainers' Recognition	30 days	Application to be processed less than or equal to five working days after receipt of required documentation and fees
Asbestos and Lead Accreditation	30 days	Application to be processed less than or equal to five working days after receipt of required documentation and fees
Asbestos Demolition and Renovation Notification	Notification to be processed less than or equal to 10 working days after receipt or postmark of required documentation and fees	Notification to be processed less than or equal to 10 working days after receipt or postmark of required documentation and fees
Lead Contractors' "Letter of Approval"	30 days	Notification to be processed less than or equal to five working days after receipt of required documentation and fees

Note 20. ...

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2054, 2341, and 2351 et seq.

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Office of Air Quality and Nuclear Energy, Air Quality Division, LR 13:741 (December 1987), amended LR 14:613 (September 1988), LR 15:735 (September 1989), amended by the Office of Air Quality and Radiation Protection, Air Quality Division, LR 17:1205 (December 1991), repromulgated LR 18:31 (January 1992), amended LR 18:706 (July 1992), LR 18:1256 (November 1992), LR 19:1373 (October 1993), LR 19:1420 (November 1993), LR 19:1564 (December 1993), LR 20:421 (April 1994), LR 20:1263 (November 1994), LR 21:22 (January 1995), LR 21:782 (August 1995), LR 21:942 (September 1995), repromulgated LR 21:1080 (October 1995), amended LR 21:1236 (November 1995), LR 23:1496, 1499 (November 1997), LR

23:1662 (December 1997), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:267 (February 2000), LR 26:485 (March 2000), LR 26:1606 (August 2000), repromulgated LR 27:192 (February 2001), amended LR 29:672 (May 2003), LR 29:2042 (October 2003), LR 30:1475 (July 2004), amended by the Office of the Secretary, Legal Affairs Division, LR 33:2620 (December 2007), LR 34:2560 (December 2008).

## Chapter 21. Control of Emission of Organic Compounds

### Subchapter F. Gasoline Handling

#### **§2132. Stage II Vapor Recovery Systems for Control of Vehicle Refueling Emissions at Gasoline Dispensing Facilities**

A. – B.7. ...

8. Exemption. Any segregated motor vehicle fuel dispensing system used exclusively for the fueling and/or refueling of vehicles equipped with onboard refueling vapor recovery equipment (e.g., initial fueling of new vehicles at automobile assembly plants, refueling of rental cars at rental car facilities, and refueling of flexible fuel vehicles at E85 dispensing pumps), located at a facility subject to this regulation, is exempt from the requirements in Paragraphs B.5 and 6 of this Section.

9. Upon request by the Department of Environmental Quality, the owner or operator of a facility that claims to be exempt from the requirements of this Section shall submit supporting records to the Office of Environmental Assessment within 30 calendar days from the date of the request. The Department of Environmental Quality shall make a final determination regarding the exemption status of a facility.

C. – I. ...

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2054.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Air Quality and Radiation Protection, Air Quality Division, LR 18:1254 (November 1992), repromulgated LR 19:46 (January 1993), amended LR 23:1682 (December 1997), LR 24:25 (January 1998), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2453 (November 2000), LR 29:558 (April 2003), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2440 (October 2005), LR 33:2086 (October 2007), LR 34:1890 (September 2008), LR 34:2397 (November 2008).

# Title 33

## ENVIRONMENTAL QUALITY

### Part V. Hazardous Waste and Hazardous Materials

#### Subpart 1. Department of Environmental Quality—Hazardous Waste

#### Chapter 1. General Provisions and Definitions

#### §105. Program Scope

These rules and regulations apply to owners and operators of all facilities that generate, transport, treat, store, or dispose of hazardous waste, except as specifically provided otherwise herein. The procedures of these regulations also apply to the denial of a permit for the active life of a hazardous waste management facility or TSD unit under LAC 33:V.706. Definitions appropriate to these rules and regulations, including *solid waste* and *hazardous waste*, appear in LAC 33:V.109. Wastes that are excluded from regulation are found in this Section.

#### A. – D.1.k. ...

i.i. oil-bearing hazardous secondary materials (i.e., sludges, by-products, or spent materials) that are generated at a petroleum refinery (SIC code 2911) and are inserted into the petroleum refining process (SIC code 2911—including, but not limited to, distillation, catalytic cracking, fractionation, *gasification* (as defined in LAC 33:V.109), or thermal cracking units (i.e., cokers)) unless the material is placed on the land or speculatively accumulated before being so recycled. Materials inserted into thermal cracking units are excluded under this Paragraph, provided that the coke product also does not exhibit a characteristic of hazardous waste. Oil-bearing hazardous secondary materials may be inserted into the same petroleum refinery where they are generated, or sent directly to another petroleum refinery, and still be excluded under this provision. Except as provided in Clause D.1.l.ii of this Section, oil-bearing hazardous secondary materials generated elsewhere in the petroleum industry (i.e., from sources other than petroleum refineries) are not excluded under this Section. Residuals generated from processing or recycling materials excluded under this Subsection, where such materials as generated would have otherwise met a listing under LAC 33:V.Chapter 49, are designated as F037 listed wastes when disposed of or intended for disposal;

#### D.1.l.ii – P.2. ...

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq., and in particular, 2186(A)(2).

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR

10:496 (July 1984), LR 11:1139 (December 1985), LR 12:319 (May 1986), LR 13:84 (February 1987), LR 13:433 (August 1987), LR 13:651 (November 1987), LR 14:790 (November 1988), LR 15:181 (March 1989), LR 16:47 (January 1990), LR 16:217, LR 16:220 (March 1990), LR 16:398 (May 1990), LR 16:614 (July 1990), LR 17:362, 368 (April 1991), LR 17:478 (May 1991), LR 17:883 (September 1991), LR 18:723 (July 1992), LR 18:1256 (November 1992), LR 18:1375 (December 1992), amended by the Office of the Secretary, LR 19:1022 (August 1993), amended by the Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 20:1000 (September 1994), LR 21:266 (March 1995), LR 21:944 (September 1995), LR 22:813, 831 (September 1996), amended by the Office of the Secretary, LR 23:298 (March 1997), amended by the Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 23:564, 567 (May 1997), LR 23:721 (June 1997), amended by the Office of Waste Services, Hazardous Waste Division, LR 23:952 (August 1997), LR 23:1511 (November 1997), LR 24:298 (February 1998), LR 24:655 (April 1998), LR 24:1093 (June 1998), LR 24:1687, 1759 (September 1998), LR 25:431 (March 1999), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:268 (February 2000), LR 26:2464 (November 2000), LR 27:291 (March 2001), LR 27:706 (May 2001), LR 29:317 (March 2003), LR 30:1680 (August 2004), amended by the Office of Environmental Assessment, LR 30:2463 (November 2004), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2451 (October 2005), LR 32:605 (April 2006), LR 32:821 (May 2006), LR 33:450 (March 2007), LR 33:2097 (October 2007), LR 34:614 (April 2008), LR 34:1008 (June 2008), LR 34:1893 (September 2008), LR 34:2395 (November 2008).

#### §109. Definitions

For all purposes of these rules and regulations, the terms defined in this Chapter shall have the following meanings, unless the context of use clearly indicates otherwise.

\* \* \*

*Gasification*—for the purpose of complying with LAC 33:V.105.D.1.l.i, a process, conducted in an enclosed device or system, designed and operated to process petroleum feedstock, including oil-bearing hazardous secondary materials, through a series of highly controlled steps utilizing thermal decomposition, limited oxidation, and gas cleaning to yield a synthesis gas composed primarily of hydrogen and carbon monoxide gas.

\* \* \*

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 10:496 (July 1984), LR 11:1139 (December 1985), LR 12:319 (May 1986), LR 13:84 (February 1987), LR 13:433 (August 1987), LR 13:651 (November 1987), LR 14:790, 791 (November 1988), LR 15:378 (May 1989), LR 15:737 (September 1989), LR 16:218, 220 (March 1990), LR 16:399 (May 1990), LR 16:614 (July 1990), LR 16:683 (August 1990), LR 17:362 (April 1991), LR 17:478 (May 1991), LR 18:723 (July 1992), LR 18:1375 (December 1992), repromulgated by the Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 19:626 (May 1993), amended LR 20:1000 (September 1994), LR 20:1109 (October 1994), LR 21:266 (March 1995), LR 21:944 (September 1995), LR 22:814 (September 1996), LR 23:564 (May 1997), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:655 (April



1998), LR 24:1101 (June 1998), LR 24:1688 (September 1998), LR 25:433 (March 1999), repromulgated LR 25:853 (May 1999), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:269 (February 2000), LR 26:2465 (November 2000), LR 27:291 (March 2001), LR 27:708 (May 2001), LR 28:999 (May 2002), LR 28:1191 (June 2002), LR 29:318 (March 2003); amended by the Office of the Secretary, Legal Affairs Division, LR 31:2452 (October 2005), LR 31:3116 (December 2005), LR 32:606 (April 2006), LR 32:822 (May 2006), LR 33:1625 (August 2007), LR 33:2098 (October 2007), LR 34:71 (January 2008), LR 34:615 (April 2008), LR 34:1009 (June 2008), LR 34:1894 (September 2008), LR 34:2396 (November 2008).

## Chapter 31. Incinerators

### §3105. Applicability

A. ...

B. Integration of the MACT Standards

1. Except as provided by Paragraphs B.2-4 of this Section, the standards of this Subsection do not apply to a new hazardous waste incineration unit that becomes subject to RCRA permit requirements after October 12, 2005, and no longer apply when an owner or operator of an existing hazardous waste incineration unit demonstrates compliance with the maximum achievable control technology (MACT) requirements of 40 CFR Part 63, Subpart EEE, as incorporated by reference at LAC 33:III.5122, by conducting a comprehensive performance test and submitting to the administrative authority a notification of compliance under 40 CFR 63.1207(j) and 63.1210(d) documenting compliance with the requirements of 40 CFR Part 63, Subpart EEE. Nevertheless, even after this demonstration of compliance with the MACT standards, RCRA permit conditions that were based on the standards of LAC 33:V.Chapters 15, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 31, 32, 33, 35, and 37 will continue to be in effect until they are removed from the permit or the permit is terminated or revoked, unless the permit expressly provides otherwise.

B.2. – E.Table 1.Footnote 1. ...

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Hazardous Waste Division, LR 10:200 (March 1984), amended LR 11:1139 (December 1985), LR 13:433 (August 1987), LR 14:424 (July 1988), LR 15:737 (September 1989), LR 16:399 (May 1990), LR 18:1256 (November 1992), LR 18:1375 (December 1992), LR 20:1000 (September 1994), LR 21:944 (September 1995), LR 22:835 (September 1996), amended by the Office of Waste Services, Hazardous Waste Division, LR 24:318 (February 1998), LR 24:681 (April 1998), LR 24:1741 (September 1998), LR 25:479 (March 1999), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 27:301 (March 2001), LR 28:1004 (May 2002), LR 29:323 (March 2003), amended by the Office of the Secretary, Legal Affairs Division, LR 32:830 (May 2006), LR 34:629 (April 2008), LR 34:1898 (September 2008), LR 34:2396 (November 2008).

## Chapter 49. Lists of Hazardous Wastes

[Comment: Chapter 49 is divided into two sections: Category I Hazardous Wastes, which consist of Hazardous Wastes from nonspecific and specific sources (F and K wastes), Acute Hazardous Wastes (P wastes), and Toxic Wastes (U wastes) (LAC 33:V.4901); and Category II Hazardous Wastes, which consist of wastes that are ignitable, corrosive, reactive, or toxic (LAC 33:V.4903).]

### §4901. Category I Hazardous Wastes

A. – B.1.NOTE. ...

Table 1. Hazardous Wastes from Nonspecific Sources		
Industry and EPA Hazardous Waste Number	Hazard Code	Hazardous Waste
Generic * * *		
[See Prior Text in F001 – F012]		
F019	(T)	Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process. Wastewater treatment sludges from the manufacturing of motor vehicles using a zinc phosphating process will not be subject to this listing at the point of generation if the wastes are not placed outside on the land prior to shipment to a landfill for disposal and are either disposed of in a Subtitle D municipal or industrial landfill unit that is equipped with a single clay liner and is permitted, licensed, or otherwise authorized by the state; or disposed of in a landfill unit subject to, or otherwise meeting, the landfill requirements in 40 CFR 258.40 or LAC 33:V.2503 or 4512. For the purposes of this listing, <i>motor vehicle manufacturing</i> is defined in Clause B.2.d.i of this Section, and Clause B.2.d.ii of this Section describes the recordkeeping requirements for motor vehicle manufacturing facilities.
* * *		
[See Prior Text in F020 – F039]		

\* (I,T) should be used to specify mixtures that are ignitable and contain toxic constituents.

B.2. – B.2.c.ii. ...

d. For the purposes of the F019 listing, the following conditions apply to wastewater treatment sludges from the manufacturing of motor vehicles using a zinc phosphating process.

i. *Motor vehicle manufacturing* is defined to include the manufacture of automobiles and light trucks/utility vehicles (including light duty vans, pick-up trucks, minivans, and sport utility vehicles). Facilities must be engaged in manufacturing complete vehicles (body and chassis or unibody) or chassis only.

ii. Generators must maintain in their on-site records documentation and information sufficient to prove that the wastewater treatment sludges to be exempted from the F019 listing meet the conditions of the listing. These records must include the volume of waste generated and disposed of off-site, documentation showing when the waste volumes were generated and sent off-site, the name and address of the receiving facility, and documentation confirming receipt of the waste by the receiving facility. Generators must maintain these documents on site for no less than three years. The retention period for the documentation is automatically extended during the course of any enforcement action or as requested by the EPA Regional Administrator or the administrative authority.

#### B.3 - G.Table 6. ...

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2180 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, LR 10:200 (March 1984), amended LR 10:496 (July 1984), LR 11:1139 (December 1985), LR 12:319 (May 1986), LR 13:84 (February 1987), LR 13:433 (August 1987), LR 14:426 (July 1988), LR 14:791 (November 1988), LR 15:182 (March 1989), LR 16:220 (March 1990), LR 16:614 (July 1990), LR 16:1057 (December 1990), LR 17:369 (April 1991), LR 17:478 (May 1991), LR 17:658 (July 1991), LR 18:723 (July 1992), LR 18:1256 (November 1992), LR 18:1375 (December 1992), LR 20:1000 (September 1994), LR 21:266 (March 1995), LR 21:944 (September 1995), LR 22:829, 840 (September 1996), amended by the Office of Waste Services, Hazardous Waste Division, LR 23:1522 (November 1997), LR 24:321 (February 1998), LR 24:686 (April 1998), LR 24:1754 (September 1998), LR 25:487 (March 1999), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 27:304 (March 2001), LR 27:715 (May 2001), LR 28:1009 (May 2002), LR 29:324 (March 2003), amended by the Office of Environmental Assessment, LR 31:1573 (July 2005), amended by the Office of the Secretary, Legal Affairs Division, LR 32:831 (May 2006), LR 33:1627 (August 2007), LR 34:635 (April 2008), LR 34:1020 (June 2008), LR 34:2392 (November 2008).

## Title 33

### ENVIRONMENTAL QUALITY

#### Part XI. Underground Storage Tanks

##### Chapter 1. Program Applicability and Definitions

###### §103. Definitions

A. For all purposes of these rules and regulations, the terms defined in this Section shall have the following meanings, unless specifically defined otherwise in LAC 33:XI.1105 or 1303.

\* \* \*

*Install or Installation*—the process of placing a UST system in the ground and preparing it to be put into service.

\* \* \*

*Pipe or Piping*—a hollow cylinder or tubular conduit that is constructed of non-earthen materials and that routinely contains and conveys regulated substances from a UST to a dispenser or other end-use equipment. Such piping includes any elbows, couplings, unions, valves, or other in-line fixtures that contain and convey regulated substances from the UST to the dispenser. This definition does not include vent, vapor recovery, or fill lines.

\* \* \*

*Replace or Replacement*—to remove an existing UST and install a new UST in substantially the same location as the removed tank, or to remove and replace 25 percent or more of piping associated with a single UST.

\* \* \*

*Secondary Containment*—a containment system that utilizes an outer or secondary container or impervious liner designed to prevent releases of regulated substances from the primary container from reaching the surrounding environment for a time sufficient to allow for detection and control of the released product. Such systems include, but are not limited to, double-wall tanks and piping, jacketed tanks and piping that have an interstitial space that allows for interstitial monitoring, and any other such system approved by the department prior to installation.

\* \* \*

*Under-Dispenser Containment*—a containment system beneath a dispenser designed to prevent releases of regulated substances from the dispenser or contained piping from reaching the surrounding environment for a time sufficient to allow for detection and control of the released product. Such containment must be liquid-tight on its sides, bottom, and at any penetrations, and must allow for visual inspection and access to the components in the containment system or be regularly monitored.

\* \* \*

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Underground Storage Tank Division, LR 16:614 (July 1990), amended LR 17:658 (July 1991), LR 18:727 (July 1992), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2558 (November 2000), LR 27:520 (April 2001), amended by the Office of Environmental Assessment, LR 31:1065 (May 2005), LR 31:1577 (July 2005), repromulgated LR 31:2002 (August 2005), amended by the Office of the Secretary, Legal Affairs Division, LR 34:2115 (October 2008).

##### Chapter 3. Registration Requirements, Standards, and Fee Schedule

###### §301. Registration Requirements

A. – B.1. ...

a. tank and piping installation in accordance with LAC 33:XI.303.D.6, including secondary containment of new and replacement tanks and/or piping, under-dispenser containment, and submersible pump containment;

b. cathodic protection of steel tanks and piping in accordance with LAC 33:XI.303.D.1-2;

c. – d. ...

2. All owners of new UST systems must ensure that the installer certifies on the registration form that the methods used to install the tanks and piping comply with the requirements of LAC 33:XI.303.D.6.a. Beginning January 20, 1992, registration forms shall include the name and department-issued certificate number of the individual exercising supervisory control over *installation-critical junctures* (as defined in LAC 33:XI.1303) of a UST system.

C. – C.4. ...

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Underground Storage Tank Division, LR 11:1139 (December 1985), amended LR 16:614 (July 1990), LR 17:658 (July 1991), LR 18:727 (July 1992), LR 20:294 (March 1994), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2558 (November 2000), LR 28:475 (March 2002), amended by the Office of Environmental Assessment, LR 31:1066 (May 2005), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2520 (October 2005), repromulgated LR 32:393 (March 2006), amended LR 32:1852 (October 2006), LR 33:2171 (October 2007), LR 34:2116 (October 2008).

###### §303. Standards for UST Systems

A. ...

B. New UST Systems Near Active or Abandoned Water Wells. In order to prevent releases due to structural failure, corrosion, or spills and overfills for as long as the UST system is used to store regulated substances, all new UST systems installed within 50 feet of an active or abandoned water well must meet the requirements of LAC 33:XI.703.C.2.

C. Standards for UST Systems Installed After December 20, 2008. In order to prevent releases due to structural failure, corrosion, or spills and overfills for as long as the UST system is used to store regulated substances, all UST systems installed after December 20, 2008, located more than 50 feet from an active or abandoned water well shall have secondary containment in accordance with Subsection D of this Section.

1. If a single-walled UST is placed in the ground at the location where it is to be put into service prior to December 20, 2008, the UST owner is allowed 90 days (until March 20, 2009) to complete the UST system installation without having to comply with the secondary containment requirements in Subsection D of this Section.

2. The department may grant an extension to these dates only in the event that the UST or UST system installation is delayed due to adverse weather conditions or other unforeseen, unavoidable circumstances. A written contract alone does not qualify as an unforeseen, unavoidable circumstance. In order to obtain an extension, the UST owner must submit a written request to the Office of Environmental Assessment, describing the circumstances that have caused the installation delay.

D. All new UST systems shall comply with the following standards.

1. Tanks. Each tank must be properly designed and constructed, and any portion underground that routinely contains product must be protected from corrosion in accordance with Subsection A of this Section and as described below:

- a. the tank is constructed of fiberglass-reinforced plastic; or
- b. the tank is constructed of metal and cathodically protected in the following manner:
  - i. the tank is coated with a suitable dielectric material;
  - ii. field-installed cathodic protection systems are designed by a corrosion expert;
  - iii. impressed current systems are designed to allow determination of current operating status as required in LAC 33:XI.503.A.3; and
  - iv. cathodic protection systems are operated and maintained in accordance with LAC 33:XI.503 or according to guidelines established by the department; or
- c. the tank is constructed of a metal-fiberglass-reinforced-plastic composite; or
- d. the tank is constructed of metal without additional corrosion protection measures, provided that:
  - i. the tank is installed at a site that a corrosion expert determines will not be corrosive enough to cause the tank to have a release due to corrosion during its operating life; and

- ii. owners and operators maintain records that demonstrate compliance with the requirements of Clause D.1.d.i of this Section for the remaining life of the tank; or

- e. the tank construction and corrosion protection are determined by the department to be designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than the constructions listed in Subparagraphs D.1.a-d and f of this Section; and

- f. for any UST system that is installed or replaced after December 20, 2008, along with meeting the requirements of Subparagraphs D.1.a-e of this Section, the tank employs *secondary containment*, as defined in LAC 33:XI.103, as follows:

- i. it is an accepted UST design as described in Subparagraphs D.1.a-e of this Section, is of double-walled or jacketed construction in accordance with Subsection A of this Section, is capable of containing a release from the inner wall of the tank, and is designed with release detection in accordance with LAC 33:XI.701.A.6.a; or

- ii. it is some other secondarily-contained tank system approved by the department prior to installation.

2. Piping. Piping on new UST systems that routinely contains regulated substances and is in contact with the ground or water must be properly designed, constructed, and protected from corrosion in accordance with Subsection A of this Section and as described below:

- a. the piping is constructed of fiberglass-reinforced plastic; or
- b. the piping is constructed of metal and cathodically protected in the following manner:
  - i. the piping is coated with a suitable dielectric material;
  - ii. field-installed cathodic protection systems are designed by a corrosion expert;
  - iii. impressed current systems are designed to allow determination of current operating status as required in LAC 33:XI.503.A.3; and
  - iv. cathodic protection systems are operated and maintained in accordance with LAC 33:XI.503 or guidelines established by the department; or
- c. the piping is constructed of metal without additional corrosion protection measures, provided that:
  - i. the piping is installed at a site that a corrosion expert determines is not corrosive enough to cause the piping to have a release due to corrosion during its operating life; and
  - ii. owners and operators maintain records that demonstrate compliance with the requirements of Clause D.2.c.i of this Section for the remaining life of the piping; or
- d. the piping construction and corrosion protection are determined by the department to be designed to prevent

the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than the requirements in Subparagraphs D.2.a-c, e, and f of this Section; or

e. the piping is of double-walled non-metallic flexible or semi-rigid construction;

f. if piping connected to a UST is installed or replaced after December 20, 2008, along with meeting the requirements of Subparagraphs D.2.a-e of this Section, the piping employs *secondary containment*, as defined in LAC 33:XI.103, as follows:

i. any of the accepted piping designs listed in Subparagraphs D.2.a-e of this Section shall be fabricated with double-walled or jacketed construction in accordance with Subsection A of this Section, shall be capable of containing a release from the inner wall of the piping, shall be designed with release detection in accordance with LAC 33:XI.701.B.4; or

ii. the piping system shall have some other form of secondary containment system approved by the department prior to installation; and

g. if 25 percent or more of the piping to any one UST is replaced after December 20, 2008, it shall comply with Clause D.2.f.i or ii of this Section. If a new motor fuel dispenser is installed at an existing UST facility and new piping is added to the UST system to connect the new dispenser to the existing system, then the new piping shall comply with Clause D.2.f.i or ii of this Section. Suction piping that meets the requirements of LAC 33:XI.703.D.2.b.i-v and suction piping that manifolds two or more tanks together are not required to meet the secondary containment requirements outlined in this Paragraph.

### 3. Spill and Overfill Prevention Equipment

a. Except as provided in Subparagraph D.3.b of this Section, to prevent spilling and overfilling associated with product transfer to the UST system, owners and operators must use:

i. spill prevention equipment that will prevent release of product to the environment when the transfer hose is detached from the fill pipe (for example, a spill bucket). Spill buckets shall have liquid-tight sides and bottoms and be maintained free of regulated substances. Regulated substances spilled into any spill bucket shall be immediately removed by the UST owner and/or operator or the bulk fuel distributor. The presence of greater than one inch of regulated substances in a spill bucket is a violation of this Section and may result in issuance of an enforcement action to the UST owner and/or operator and the bulk fuel distributor, common carrier, or transporter; and

ii. overfill prevention equipment that will:

(a). automatically shut off flow into the tank when the tank is no more than 95 percent full;

(b). alert the transfer operator when the tank is no more than 90 percent full by restricting the flow into the tank or triggering a high-level alarm; or

(c). restrict flow 30 minutes prior to overfilling, or alert the operator with a high-level alarm one minute before overfilling, or automatically shut off flow into the tank so that none of the fittings on top of the tank are exposed to product because of overfilling.

b. Owners and operators are not required to use the spill and overfill prevention equipment specified in Subparagraph D.3.a of this Section if:

i. alternative equipment is used that the department determines is no less protective of human health and the environment than the equipment specified in Clause D.3.a.i or ii of this Section; or

ii. the UST system is filled by transfers of no more than 25 gallons at one time.

4. Under-Dispenser Secondary Containment. After December 20, 2008, under-dispenser containment sumps:

a. are required under the following conditions:

i. in any installation of a new dispenser at a new facility;

ii. in any installation of a new dispenser at an existing facility where new piping is added to the UST system to connect the new dispenser to the existing system;

iii. in any installation of a replacement dispenser at an existing facility where the piping that connects the dispenser to the existing piping is replaced, including replacing the metal flexible connector, riser, or other transitional components that are beneath the dispenser and the impact shear valve and that connect the dispenser to the piping. Replacing an existing dispenser where no piping and none of the piping that connects the dispenser to the existing piping are replaced does not require the addition of an under-dispenser containment sump; and

b. shall have liquid-tight sides and bottoms and be maintained free of storm water and debris. Regulated substances spilled into any under-dispenser containment sump shall be immediately removed upon discovery to the maximum extent practicable.

5. Submersible Turbine Pump (STP) Secondary Containment. After December 20, 2008, secondary containment for submersible pumps:

a. is required under the following conditions:

i. in any installation of a new STP at a new facility;

ii. in any installation of an STP (the entire STP, STP housing, and riser pipe) at an existing facility where new piping is added to the UST system to connect the new STP to the existing system;

iii. in any installation of a replacement STP (the entire STP, STP housing, and riser pipe) at an existing

facility where the piping that connects the STP to the existing piping is replaced. Replacing the metal flexible connector with a single-walled flexible connector requires the addition of a containment sump. Replacing the metal flexible connector with a double-walled flexible connector does not require the addition of a containment sump as long as the newly-installed STP is secondarily contained, and replacing an existing STP where no piping is replaced does not require the addition of STP secondary containment; and

b. can consist of either a built-in secondary containment system or a STP containment sump. STP containment sumps installed after December 20, 2008, shall have liquid-tight sides and bottoms and be maintained free of storm water and debris. Regulated substances spilled into any STP containment sump shall be immediately removed upon discovery to the maximum extent practicable.

#### 6. Installation Procedures

a. Installation. All tanks and piping must be installed in accordance with Subsection A of this Section and in accordance with the manufacturer's instructions.

b. Certification of Installation and Verification of Installer Certification

i. From the date of promulgation of these regulations until January 20, 1992, owners and operators must certify installations as follows. All owners and operators must ensure that one or more of the following methods of certification, testing, or inspection is used to demonstrate compliance with Subparagraph D.6.a of this Section by providing a certification of compliance on the UST registration form (UST-REG-02) in accordance with LAC 33:XI.301:

(a). the installer has been certified by the tank and piping manufacturers; or

(b). the installation has been inspected and certified by a professional engineer with education and experience in UST system installation; or

(c). the installation has been inspected and approved by the department; or

(d). all work listed in the manufacturer's installation checklists has been completed; or

(e). the owner and operator have complied with another method for ensuring compliance with Subparagraph D.6.a of this Section that is determined by the department to be no less protective of human health and the environment.

ii. Beginning January 20, 1992, all owners and operators must ensure that the individual exercising supervisory control over *installation critical-junctures* (as defined in LAC 33:XI.1303) of a UST system is certified in accordance with LAC 33:XI.Chapter 13. To demonstrate compliance with Subparagraph D.6.a of this Section, all owners and operators must provide a certification of compliance on the UST Registration of Technical Requirements Form (UST-REG-02) within 60 days of the

introduction of any regulated substance. Forms shall be filed with the Office of Environmental Assessment.

c. Notification of Installation. The owner and operator must notify the Office of Environmental Assessment in writing at least 30 days before beginning installation of a UST system by:

i. completing the Installation, Renovation and Upgrade Notification Form (UST-ENF-04);

ii. notifying the appropriate regional office of the Office of Environmental Assessment by mail or fax seven days prior to commencing the installation and before commencing any *installation-critical juncture* (as defined in LAC 33:XI.1303);

iii. including in the notification a statement of the number of active or abandoned water wells within 50 feet of the UST system and the type of system to be installed; and

iv. including in the notification the methods to be used to comply with LAC 33:XI.Chapter 7.

#### E. Upgrading Existing UST Systems to New System Standards

1. Not later than December 22, 1998, all existing UST systems must comply with one of the following sets of requirements:

a. new UST system performance standards under Subsection D of this Section; or

b. the upgrading requirements in Paragraphs E.3-6 of this Section.

2. After December 22, 1998, all existing UST systems not meeting the requirements of Paragraph E.1 of this Section must comply with closure requirements under LAC 33:XI.Chapter 9, including applicable requirements for corrective action under LAC 33:XI.715.

3. Tank Upgrading Requirements. Metal tanks must be upgraded in accordance with Subsection A of this Section and meet one of the following requirements.

a. Internal Lining. A tank may be upgraded by internal lining if:

i. the lining is installed in accordance with the requirements of LAC 33:XI.507; and

ii. within 10 years after lining, and every five years thereafter, the lined tank is internally inspected and found to be structurally sound with the lining still performing in accordance with original design specifications.

b. Cathodic Protection. A tank may be upgraded by cathodic protection if the cathodic protection system meets the requirements of Clauses D.1.b.ii, iii, and iv of this Section, and the integrity of the tank is ensured using one of the following methods.

i. The tank is internally inspected and assessed to ensure that the tank is structurally sound and free of

corrosion holes before the cathodic protection system is installed.

ii. The tank has been installed for less than 10 years and is monitored monthly for releases in accordance with LAC 33:XI.701.A.4-8.

iii. The tank has been installed for less than 10 years and is assessed for corrosion holes by conducting two tightness tests that meet the requirements of LAC 33:XI.701.A.3. The first tightness test must be conducted before the cathodic protection system is installed. The second tightness test must be conducted between three and six months after the first operation of the cathodic protection system.

iv. The tank is assessed for corrosion holes by a method that is determined by the department to prevent releases in a manner that is no less protective of human health and the environment than the methods specified in Clauses E.3.b.i-iii of this Section.

v. All procedures used to upgrade existing UST systems by cathodic protection shall be conducted in accordance with applicable requirements of the Louisiana Department of Transportation and Development, or its successor agency.

c. Internal Lining Combined with Cathodic Protection. A tank may be upgraded by both internal lining and cathodic protection if:

i. the lining is installed in accordance with the requirements of LAC 33:XI.507; and

ii. the cathodic protection system meets the requirements of Clauses D.1.b.ii, iii, and iv of this Section.

4. Piping Upgrading Requirements. Metal piping that routinely contains regulated substances and is in contact with the ground or water must be cathodically protected and must meet the requirements of Clauses D.2.b.ii, iii, and iv of this Section.

5. Spill and Overfill Prevention Equipment. To prevent spilling and overfilling associated with product transfer to the UST system, all existing UST systems must comply with the requirements for spill and overfill prevention equipment for new UST systems specified in Paragraph D.3 of this Section.

#### 6. Reporting Requirements

a. The owner and operator must notify the Office of Environmental Assessment in writing at least 30 days before beginning a UST system upgrade.

b. An amended registration form (UST-REG-02) must be submitted to the Office of Environmental Assessment within 30 days after the UST system is upgraded. The owner and operator must certify compliance with Subsection C of this Section on the amended registration form (UST-REG-02). Beginning January 20, 1992, the amended registration forms (UST-REG-01 and 02) shall include the name and department-issued certificate number of the individual exercising supervisory control over

those steps in the upgrade that involve repair-critical junctures or installation-critical junctures (as defined in LAC 33:XI.1303) of a UST system.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Underground Storage Tank Division, LR 11:1139 (December 1985), amended LR 16:614 (July 1990), LR 17:658 (July 1991), LR 18:728 (July 1992), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2558 (November 2000), LR 28:475 (March 2002), amended by the Office of Environmental Assessment, LR 31:1066 (May 2005), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2520 (October 2005), LR 33:2171 (October 2007), LR 34:2116 (October 2008).

## Chapter 4. 2005 Federal Underground Storage Tank Compliance Act Mandated Requirements

### §403. Delivery Prohibition of Regulated Substances to Underground Storage Tank Systems

A. – B.3. ...

4. failure to protect from corrosion buried metal piping and/or components that routinely contain regulated substances in accordance with LAC 33:XI.303.D.2 and E.4. Failure to produce records, within 10 days of request by the department, showing procedures and/or practices designed to protect from corrosion buried metal piping and/or components that routinely contain regulated substances shall be considered a failure to protect from corrosion buried metal piping and/or components that routinely contain regulated substances.

C. – E. ...

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of the Secretary, Legal Affairs Division, LR 33:1867 (September 2007), amended LR 34:2119 (October 2008).

## Chapter 5. General Operating Requirements

### §507. Repairs Allowed

A. – A.6. ...

7. After December 20, 2008, if any piping repair or replacement impacts 25 percent or more of the UST piping in the repaired piping run, that entire piping run shall be upgraded with secondary containment and meet the requirements of LAC 33:XI.303.D.2 and 701.B.4.

B. ...

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Underground Storage Tank Division, LR 16:614 (July 1990), amended LR 17:658 (July 1991), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2558 (November 2000), amended by the Office of Environmental Assessment, LR 31:1070 (May 2005), amended by the Office of the Secretary, Legal Affairs Division, LR 33:2172 (October 2007), LR 34:2119 (October 2008).

#### **§509. Reporting and Recordkeeping**

**A. Reporting.** Owners and operators must submit the following information to the department:

1. registration forms (UST-REG-01 and 02) for all UST systems (LAC 33:XI.301), including certification of installation and verification of installer certification for new UST systems, in accordance with LAC 33:XI.303.D.6.b;

2. – 5. ...

**B. Recordkeeping.** Owners and operators must maintain the following information:

1. a corrosion expert's analysis of site corrosion potential if corrosion protection equipment is not used (LAC 33:XI.303.D.1.d and D.2.c);

2. – 5. ...

6. documentation of the type and construction of the tank, piping, leak detection equipment, corrosion protection equipment, and spill and overfill protection equipment currently in use at the site; and

**B.7. – C. ...**

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2001 et seq.

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Underground Storage Tank Division, LR 16:614 (July 1990), amended LR 18:728 (July 1992), amended by the Office of Environmental Assessment, LR 31:1070 (May 2005), repromulgated by the Office of the Secretary, Legal Affairs Division, LR 32:393 (March 2006), amended LR 34:2119 (October 2008).

## **Chapter 7. Methods of Release Detection and Release Reporting, Investigation, Confirmation, and Response**

#### **§701. Methods of Release Detection**

**A. – A.6. ...**

a. For double-walled UST systems, the sampling or testing method used must be capable of detecting a release through the inner wall in any portion of the tank that routinely contains product. Interstitial monitoring of double-walled or jacketed tanks shall be conducted either continuously by means of an automatic leak sensing device that signals to the operator the presence of any regulated substance in the interstitial space, or manually every 30 days

by means of a procedure capable of detecting the presence of any regulated substance in the interstitial space.

**A.6.b. – B.2. ...**

3. **Applicable Tank Methods.** Any of the methods in Paragraphs A.4-8 of this Section may be used if they are designed to detect a release from any portion of the underground piping that routinely contains regulated substances.

4. **Interstitial Monitoring.** Interstitial monitoring of double-walled or jacketed piping shall be conducted either continuously by means of an automatic leak sensing device that signals to the operator the presence of any regulated substance in the interstitial space or sump, or manually every 30 days by means of a procedure capable of detecting the presence of any regulated substance in the interstitial space or sump.

a. The interstitial space or sump shall be maintained free of water, debris, or anything that could interfere with leak detection capabilities.

b. Subparagraph D.4.a of this Section does not apply to containment sumps that were installed prior to December 20, 2008, and that do not utilize interstitial monitoring as a piping release detection method.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2001 et seq.

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Underground Storage Tank Division, LR 16:614 (July 1990), amended by the Office of Environmental Assessment, LR 31:1072 (May 2005), amended by the Office of the Secretary, Legal Affairs Division, LR 33: 2172 (October 2007), LR 34:2120 (October 2008).

#### **§703. Requirements for Use of Release Detection Methods**

**A. – B. ...**

1. **Tanks.** Tanks must be monitored at least every 30 days for releases using one of the methods listed in LAC 33:XI.701.A.4-8, except for the following.

a. UST systems that meet the performance standards in LAC 33:XI.303.D or E, and the monthly inventory control requirements in LAC 33:XI.701.A.1 or 2, may use tank tightness testing (conducted in accordance with LAC 33:XI.701.A.3) at least every five years until December 22, 1998, or until 10 years after the tank is installed or upgraded in accordance with LAC 33:XI.303.E.3, whichever is later.

b. UST systems that do not meet the performance standards in LAC 33:XI.303.D or E may use monthly inventory controls (conducted in accordance with LAC 33:XI.701.A.1 or 2), and tank tightness testing every 12 months (conducted in accordance with LAC 33:XI.701.A.3) until December 22, 1998, when the tank must be upgraded in accordance with LAC 33:XI.303.E or permanently closed in accordance with LAC 33:XI.905.

**B.1.c. – C.2.e.iii. ...**



AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Underground Storage Tank Division, LR 16:614 (July 1990), amended LR 17:658 (July 1991), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2559 (November 2000), amended by the Office of Environmental Assessment, LR 31:1073 (May 2005), amended by the Office of the Secretary, Legal Affairs Division, LR 33:2172 (October 2007), LR 34:1400 (July 2008), LR 34:2120 (October 2008).

## Chapter 9. Out-of-Service UST Systems and Closure

### §903. Temporary Closure

A. – B.3. ...

C. When a UST system is temporarily closed for more than six months, owners and operators must permanently

close the UST system if it does not meet either the performance standards in LAC 33:XI.303.D for new UST systems or the upgrading requirements in LAC 33:XI.303.E.3-6, except that the spill and overfill equipment requirements do not have to be met.

D. – E. ...

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Solid and Hazardous Waste, Underground Storage Tank Division, LR 16:614 (July 1990), amended LR 17:658 (July 1991), amended by the Office of Environmental Assessment, LR 31:1074 (May 2005), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2520 (October 2005), LR 33:2173 (October 2007), LR 34:2120 (October 2008).

## Title 33

### ENVIRONMENTAL QUALITY

#### Part XV. Radiation Protection

#### Chapter 4. Standards for Protection against Radiation

##### Subchapter G. Precautionary Procedures

##### §455. Procedures for Receiving and Opening Packages

A. Each licensee or registrant who expects to receive a package containing quantities of radioactive material in excess of a *Type A quantity*, as defined in LAC 33:XV.1503, shall make arrangements to receive:

##### A.1. – B.1. ...

2. monitor the external surfaces of a labeled<sup>5</sup> package for radiation levels unless the *package* contains quantities of *radioactive material* that are less than or equal to the *Type A quantity*, as defined in LAC 33:XV.1503; and

##### B.3. – C. ...

D. The licensee or registrant shall immediately notify the final delivery carrier and, by telephone and telegram, mailgram, or facsimile, the Office of Environmental Compliance at (225) 765-0160 when:

1. removable radioactive surface contamination exceeds the limits of LAC 33:XV.1516.A.9; or
2. external radiation levels exceed the limits of LAC 33:XV.1516.A.10.

##### E. – F. ...

<sup>5</sup>Labeled with a Radioactive White I, Yellow II or Yellow III label as specified in U.S. Department of Transportation regulations 49 CFR 172.403 and 172.436-440.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Nuclear Energy Division, LR 13:569 (October 1987), amended by the Office of Air Quality and Radiation Protection, Radiation Protection Division, LR 19:1421 (November 1993), LR 22:973 (October 1996), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2577 (November 2000), LR 28:1951 (September 2002), amended by the Office of the Secretary, Legal Affairs Division, LR 34:2103 (October 2008).

#### Chapter 7. Use of Radionuclides in the Healing Arts

##### §763. Training

##### A. – K.2. ...

a. has completed 700 hours in a structured educational program consisting of both:

- i. 200 hours of classroom and laboratory training in the following areas:

##### K.2.a.i.(a). – M. ...

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Air Quality and Radiation Protection, Radiation Protection Division, LR 18:34 (January 1992), amended LR 24:2106 (November 1998), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2590 (November 2000), LR 30:1186 (June 2004), amended by the Office of Environmental Assessment, LR 31:1061 (May 2005), amended by the Office of the Secretary, Legal Affairs Division, LR 32:814 (May 2006), LR 34:983 (June 2008), LR 34:2121 (October 2008).

#### Chapter 15. Transportation of Radioactive Material

##### §1501. Purpose

A. The regulations in this Chapter establish requirements for packaging, preparation for shipment, and transportation of radioactive material.

B. The packaging and transport of radioactive material are also subject to other Chapters of LAC 33:XV (such as LAC 33:XV.Chapters 3 and 4), and to the regulations of other agencies (such as the United States Department of Transportation (U.S. DOT)) and the United States Postal Service) having jurisdiction over means of transport. The requirements of this Chapter are in addition to, and not in substitution for, other requirements.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2104(B) and 2113.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Nuclear Energy Division, LR 13:569 (October 1987), amended by the Office of the Secretary, Legal Affairs Division, LR 34:2103 (October 2008).

##### §1502. Scope

NOTE: Former Subsections B-D have moved to §1504.

A. The regulations in this Chapter apply to any specific or general licensee authorized to receive, possess, use, or transfer radioactive material, if the licensee delivers that material to a carrier for transport, transports the material outside the site of usage as specified in the license, or transports that material on public highways. No provision in this Chapter authorizes possession of radioactive material.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Nuclear Energy Division, LR 13:569 (October 1987), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:1265 (June 2000), LR 26:2771 (December 2000), LR 27:1238 (August 2001), amended by the Office of the Secretary, Legal Affairs Division, LR 34:2103 (October 2008).

**§1503. Definitions**

A. As used in this Chapter, the following definitions apply.

$A_1$ —the maximum activity of special form radioactive material permitted in a Type A package. This value is listed in 10 CFR Part 71, Appendix A, Table A-1, A-2, A-3, or A-4, incorporated by reference in LAC 33:XV.1599.A, or may be derived in accordance with the procedure prescribed in LAC 33:XV.1599.B-F.

$A_2$ —the maximum activity of radioactive material, other than special form, low specific activity (LSA), and surface contaminated object (SCO) material, permitted in a Type A package. This value is listed in 10 CFR Part 71, Appendix A, Table A-1, A-2, A-3, or A-4, incorporated by reference in LAC 33:XV.1599.A, or may be derived in accordance with the procedure prescribed in LAC 33:XV.1599.B-F.

*Carrier*—a person engaged in the transportation of passengers or property by land or water as a common, contract, or private carrier, or by civil aircraft.

*Certificate Holder*—a person who has been issued a certificate of compliance or other package approval by the U.S. NRC.

*Certificate of Compliance (CoC)*—the certificate issued by the U.S. NRC that approves the design of a package for the transportation of radioactive material.

*Close Reflection by Water*—immediate contact by water of sufficient thickness for maximum reflection of neutrons.

*Consignment*—each shipment of a package or groups of packages or load of radioactive material offered by a shipper for transport.

*Containment System*—the assembly of components of the packaging intended to retain the radioactive material during transport.

*Conveyance*—for transport by public highway or rail, any transport vehicle or large freight container; for transport by water, any vessel, or any hold, compartment, or defined deck area of a vessel, including any transport vehicle on board the vessel; and for transport by aircraft, any aircraft.

*Criticality Safety Index (CSI)*—the dimensionless number (rounded up to the first decimal place) assigned to and placed on the label of a fissile material package, to designate the degree of control accumulation of packages containing fissile material during transportation. Determination of the *criticality safety index* is described in LAC 33:XV.1511 and 1512 and in 10 CFR 71.59.

*Deuterium*—for the purposes of LAC 33:XV.1505.C and 1511, *deuterium* and any *deuterium* compound, including heavy water, in which the ratio of deuterium atoms to hydrogen atoms exceeds 1:5000.

*Exclusive Use*—the sole use by a single consignor of a conveyance for which all initial, intermediate, and final loading and unloading are carried out in accordance with the direction of the consignor or consignee. The consignor and

the carrier must ensure that any loading or unloading is performed by personnel having radiological training and resources appropriate for safe handling of the consignment. The consignor must issue specific instructions, in writing, for maintenance of exclusive use shipment controls, and include them with the shipping paper information provided to the carrier by the consignor.

*Fissile Material*—the radionuclides plutonium-239, plutonium-241, uranium-233, uranium-235, or any combination of these radionuclides. *Fissile material* means the fissile nuclides themselves, not material containing fissile nuclides. Unirradiated natural uranium and depleted uranium, and natural uranium or depleted uranium that has been irradiated in thermal reactors only, are not included in this definition. Certain exclusions from *fissile material* controls are provided in LAC 33:XV.1505.C.

*Graphite*—for the purposes of LAC 33:XV.1505.C and 1511, graphite with a boron equivalent content less than 5 parts per million and density greater than 1.5 grams per cubic centimeter.

*Licensed Material*—byproduct, source, or special nuclear material that is received, possessed, used, or transferred under a general or specific license issued by the department in accordance with this Chapter.

*Low Specific Activity (LSA) Material*—radioactive material with limited specific activity that is nonfissile or that is excepted under LAC 33:XV.1505.C, and that satisfies the descriptions and limits set forth below. Shielding materials surrounding the *LSA material* may not be considered in determining the estimated average specific activity of the package contents. *LSA material* must be in one of three groups:

a. LSA-I:

i. uranium and thorium ores, concentrates of uranium and thorium ores, and other ores containing naturally occurring radioactive radionuclides that are not intended to be processed for the use of these radionuclides;

ii. solid unirradiated natural uranium, depleted uranium, natural thorium, or their solid or liquid compounds or mixtures;

iii. radioactive material for which the  $A_2$  value is unlimited; or

iv. other radioactive material in which the activity is distributed throughout and the estimated average specific activity does not exceed 30 times the value for exempt material activity concentration determined in accordance with LAC 33:XV.1599.E.

b. LSA-II:

i. water with tritium concentration up to 0.8 TBq/liter (20.0 Ci/liter); or

ii. other material in which the activity is distributed throughout, and the average specific activity does not exceed  $10^{-4}$   $A_2/g$  for solids and gases, and  $10^{-5}$   $A_2/g$  for liquids.

c. LSA-III. Solids (e.g., consolidated wastes, activated materials), excluding powders, that satisfy the requirements of 10 CFR 71.77, in which:

i. the radioactive material is distributed throughout a solid or a collection of solid objects or is essentially uniformly distributed in a solid compact binding agent (e. g., concrete, bitumen, ceramic, etc.);

ii. the radioactive material is relatively insoluble, or it is intrinsically contained in a relatively insoluble material, so that, even under loss of packaging, the loss of radioactive material per package by leaching, when placed in water for seven days, would not exceed  $0.1 A_2$ ; and

iii. the estimated average specific activity of the solid does not exceed  $2 \times 10^{-3} A_2/g$ .

*Low Toxicity Alpha Emitters*—natural uranium, depleted uranium, and natural thorium; uranium-235, uranium-238, thorium-232, thorium-228, or thorium-230 when contained in ores or physical or chemical concentrates or tailings; or alpha emitters with a half-life of less than 10 days.

*Maximum Normal Operating Pressure*—the maximum gauge pressure that would develop in the containment system in a period of one year under the heat condition specified in 10 CFR 71.71(c)(1), in the absence of venting, external cooling by an ancillary system, or operational controls during transport.

*Natural Thorium*—thorium with the naturally occurring distribution of thorium isotopes (essentially 100 weight percent thorium-232).

*Normal Form Radioactive Material*—radioactive material which has not been demonstrated to qualify as special form radioactive material.

*Optimum Interspersed Hydrogenous Moderation*—the presence of hydrogenous material between packages to such an extent that the maximum nuclear reactivity results.

*Package*—the packaging together with its radioactive contents as presented for transport.

a. *Fissile Material Package, Type AF Package, Type BF Package, Type B(U)F Package, or Type B(M)F Package*—a fissile material packaging together with its fissile material contents.

b. *Type A Package*—a Type A packaging together with its radioactive contents. A *Type A package* is defined and must comply with the U.S. DOT regulations in 49 CFR Part 173.

c. *Type B Package*—a Type B packaging together with its radioactive contents. On approval, a *Type B package* design is designated by the NRC as B(U) unless the package has a maximum normal operating pressure of more than 700 kPa (100 lb/in<sup>2</sup>) gauge or a pressure relief device that would allow the release of radioactive material to the environment under the tests specified in 10 CFR 71.73 (hypothetical accident conditions), in which case it will receive a designation B(M). B(U) refers to the need for unilateral approval of international shipments; B(M) refers

to the need for multilateral approval of international shipments. There is no distinction made in how packages with these designations may be used in domestic transportation. To determine their distinction for international transportation, see U.S. DOT regulations in 49 CFR Part 173. A *Type B package* approved before September 6, 1983, was designated only as Type B. Limitations on its use are specified in 10 CFR 71.19.

*Packaging*—the assembly of components necessary to ensure compliance with the packaging requirements of this Chapter. It may consist of one or more receptacles, absorbent materials, spacing structures, thermal insulation, radiation shielding, and devices for cooling or absorbing mechanical shocks. The vehicle, tie-down system, and auxiliary equipment may be designated as part of the packaging.

*Regulations of the U.S. Department of Transportation*—the regulations in 49 CFR Parts 100-189.

*Special Form Radioactive Material*—radioactive material that satisfies the following conditions:

a. it is either a single solid piece or is contained in a sealed capsule that can be opened only by destroying the capsule;

b. the piece or capsule has at least one dimension not less than 5 millimeters (0.197 inch); and

c. it satisfies the test requirements of 10 CFR 71.75. A special form encapsulation designed in accordance with the requirements of 10 CFR 71.4 in effect on June 30, 1983 (see 10 CFR Part 71, revised as of January 1, 1983), and constructed prior to July 1, 1985, and a special form encapsulation designed in accordance with the requirements of 10 CFR 71.4 in effect on March 31, 1996 (see 10 CFR Part 71, revised as of January 1, 1983), and constructed before April 1, 1998, may continue to be used. Any other special form encapsulation must meet the specifications of this definition.

*Specific Activity of a Radionuclide*—the radioactivity of the radionuclide per unit mass of that nuclide. The specific activity of a material in which the radionuclide is essentially uniformly distributed is the radioactivity per unit mass of the material.

*Spent Nuclear Fuel or Spent Fuel*—fuel that has been withdrawn from a nuclear reactor following irradiation, has undergone at least one year's decay since being used as a source of energy in a power reactor, and has not been chemically separated into its constituent elements by reprocessing. Spent fuel includes the special nuclear material, byproduct material, source material, and other radioactive materials associated with fuel assemblies.

*State*—a State of the United States, or the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands.

*Surface Contaminated Object (SCO)*—a solid object that is not itself classed as radioactive material, but which has radioactive material distributed on any of its surfaces.

SCOs must be in one of two groups with surface activity not exceeding the following limits:

a. SCO-I. A solid object on which:

i. the non-fixed contamination on the accessible surface averaged over 300 cm<sup>2</sup> (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed 4 Bq/cm<sup>2</sup> (10<sup>-4</sup> microcurie/cm<sup>2</sup>) for beta and gamma and low toxicity alpha emitters, or 0.4 Bq/cm<sup>2</sup> (10<sup>-5</sup> microcurie/cm<sup>2</sup>) for all other alpha emitters;

ii. the fixed contamination on the accessible surface averaged over 300 cm<sup>2</sup> (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed 4x10<sup>4</sup> Bq/cm<sup>2</sup> (1.0 microcurie/cm<sup>2</sup>) for beta and gamma and low toxicity alpha emitters, or 4x10<sup>3</sup> Bq/cm<sup>2</sup> (0.1 microcurie/cm<sup>2</sup>) for all other alpha emitters; and

iii. the non-fixed contamination plus the fixed contamination on the inaccessible surface averaged over 300 cm<sup>2</sup> (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed 4x10<sup>4</sup> Bq/cm<sup>2</sup> (1 microcurie/cm<sup>2</sup>) for beta and gamma and low toxicity alpha emitters, or 4x10<sup>3</sup> Bq/cm<sup>2</sup> (0.1 microcurie/cm<sup>2</sup>) for all other alpha emitters.

b. SCO-II. A solid object on which the limits for SCO-I are exceeded and on which:

i. the non-fixed contamination on the accessible surface averaged over 300 cm<sup>2</sup> (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed 400 Bq/cm<sup>2</sup> (10<sup>-2</sup> microcurie/cm<sup>2</sup>) for beta and gamma and low toxicity alpha emitters or 40 Bq/cm<sup>2</sup> (10<sup>-3</sup> microcurie/cm<sup>2</sup>) for all other alpha emitters;

ii. the fixed contamination on the accessible surface averaged over 300 cm<sup>2</sup> (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed 8x10<sup>5</sup> Bq/cm<sup>2</sup> (20 microcuries/cm<sup>2</sup>) for beta and gamma and low toxicity alpha emitters or 8x10<sup>4</sup> Bq/cm<sup>2</sup> (2 microcuries/cm<sup>2</sup>) for all other alpha emitters; and

iii. the non-fixed contamination plus the fixed contamination on the inaccessible surface averaged over 300 cm<sup>2</sup> (or the area of the surface if less than 300 cm<sup>2</sup>) does not exceed 8x10<sup>5</sup> Bq/cm<sup>2</sup> (20 microcuries/cm<sup>2</sup>) for beta and gamma and low toxicity alpha emitters, or 8x10<sup>4</sup> Bq/cm<sup>2</sup> (2 microcuries/cm<sup>2</sup>) for all other alpha emitters.

*Transport Index*—the dimensionless number (rounded up to the first decimal place) placed on the label of a package to designate the degree of control to be exercised by the carrier during transportation. The *transport index* is the number determined by multiplying the maximum radiation level in millisievert (mSv) per hour at 1 meter (3.3 ft) from the external surface of the package by 100, and is equivalent to the maximum radiation level in millirem per hour at 1 meter (3.3 ft).

*Type A Quantity*—a quantity of radioactive material, the aggregate radioactivity of which does not exceed A<sub>1</sub> for special form radioactive material, or A<sub>2</sub>, for normal form radioactive material, where A<sub>1</sub> and A<sub>2</sub> are given in Table A-1 of 10 CFR Part 71, Appendix A, incorporated by reference in

LAC 33:XV.1599.A, or may be determined by procedures described in LAC 33:XV.1599.E.

*Type B Quantity*—a quantity of radioactive material greater than a Type A quantity.

*Unirradiated Uranium*—uranium containing not more than 2 x 10<sup>3</sup> Bq of plutonium per gram of uranium-235, not more than 9 x 10<sup>6</sup> Bq of fission products per gram of uranium-235, and not more than 5 x 10<sup>-3</sup> grams of uranium-236 per gram of uranium-235.

*Uranium: Natural, Depleted, Enriched*—

a. *Natural Uranium*—uranium with the naturally occurring distribution of uranium isotopes (approximately 0.711 weight percent uranium-235, and the remainder by weight essentially uranium-238).

b. *Depleted Uranium*—uranium containing less uranium-235 than the naturally occurring distribution of uranium isotopes.

c. *Enriched Uranium*—uranium containing more uranium-235 than the naturally occurring distribution of uranium isotopes.

*U.S. DOT*—the U.S. Department of Transportation.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2001 et seq.

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Nuclear Energy Division, LR 13:569 (October 1987), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:1265 (June 2000), amended by the Office of Environmental Assessment, LR 31:55 (January 2005), amended by the Office of the Secretary, Legal Affairs Division, LR 34:2103 (October 2008).

## **§1504. Requirements for the Transportation of Radioactive Material**

[Formerly Subsections C-E existed in §1502.]

**A.** Except as authorized in a general or specific license issued by the department, or as exempted in accordance with this Chapter, no licensee may transport radioactive material or deliver radioactive material to a carrier for transport.

**B.** Each licensee who transports licensed material outside the site of usage, as specified in the license, or transports licensed material on public highways, or delivers licensed material to a carrier for transport, shall comply with the applicable requirements of the U.S. DOT regulations in 49 CFR Parts 107, 171-180, and 390-397, appropriate to the mode of transport.

**C.** The licensee shall particularly note U.S. DOT regulations in the following areas:

1. packaging—49 CFR Part 173, Subparts A, B, and I;
2. marking and labeling—49 CFR Part 172, Subpart D, Paragraphs 172.400-172.407 and 172.436-172.441 of Subpart E;

3. placarding—49 CFR Part 172, Subpart F, in particular Paragraphs 172.500-172.519, 172.556; and Appendices B and C;

4. shipping papers and emergency information—49 CFR Part 172, Subparts C and G;

5. accident reporting—49 CFR 171.15 and 171.16;

6. hazardous material shipper/carrier registration—49 CFR Part 107, Subpart G;

7. hazardous material employee training—49 CFR Part 172, Subpart H; and

8. security plans—49 CFR Part 172, Subpart I.

D. The licensee shall also note U.S. DOT regulations pertaining to the following modes of transportation:

1. rail—49 CFR Part 174, Subparts A-D and K;

2. air—49 CFR Part 175;

3. vessel—49 CFR Part 176, Subparts A-F and M; and

4. public highway—49 CFR Part 177 and Parts 390-397.

E. If U.S. DOT regulations are not applicable to a shipment of licensed material, the licensee shall conform to the standards and requirements of the U.S. DOT specified in Subsection B of this Section to the same extent as if the shipment or transportation were subject to U.S. DOT regulations. A request for modification, waiver, or exemption from those requirements, and any notification referred to in those requirements, must be filed with and approved by the department.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Nuclear Energy Division, LR 13:569 (October 1987), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2602 (November 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 34:2106 (October 2008).

### **§1505. Exemptions**

A. Any physician licensed by the state of Louisiana to dispense drugs in the practice of medicine is exempt from LAC 33:XV.1504 with respect to transport by the physician of licensed material for use in the practice of medicine. However, any physician operating under this exemption must be licensed under LAC 33:XV.Chapter 7.

B. A licensee is exempt from all the requirements of this Chapter with respect to shipment or carriage of the following low-level materials:

1. natural material and ores containing naturally occurring radionuclides that are not intended to be processed for use of these radionuclides, provided the activity concentration of the material does not exceed 10 times the values specified in Table A-2 of 10 CFR Part 71, Appendix A, incorporated by reference in LAC 33:XV.1599.A; and

2. materials for which the activity concentration is not greater than the activity concentration values specified in Table A-2 of 10 CFR Part 71, Appendix A, incorporated by reference in LAC 33:XV.1599.A, or for which the consignment activity is not greater than the limit for an exempt consignment found in Table A-2 of 10 CFR Part 71, Appendix A, incorporated by reference in LAC 33:XV.1599.A.

C. Fissile material meeting at least one of the following requirements is exempt from classification as fissile material and from the fissile material package standards of 10 CFR 71.55 and 71.59, but is subject to all other requirements of this Chapter, except as noted:

1. an individual package containing 2 grams or less of fissile material;

2. individual or bulk packaging containing 15 grams or less of fissile material provided the package has at least 200 grams of solid nonfissile material for every gram of fissile material. Lead, beryllium, graphite, and hydrogenous material enriched in deuterium may be present in the package, but must not be included in determining the required mass for solid nonfissile material;

3. low concentrations of solid fissile material commingled with solid nonfissile material, provided that there is at least 2000 grams of solid nonfissile material for every gram of fissile material, and there is no more than 180 grams of fissile material distributed within 360 kg of contiguous nonfissile material. Lead, beryllium, graphite, and hydrogenous material enriched in deuterium may be present in the package, but must not be included in determining the required mass of solid nonfissile material;

4. uranium enriched in uranium-235 to a maximum of 1 percent by weight, and with total plutonium and uranium-233 content of up to 1 percent of the mass of uranium-235, provided that the mass of any beryllium, graphite, and hydrogenous material enriched in deuterium constitutes less than 5 percent of the uranium mass;

5. liquid solutions of uranyl nitrate enriched in uranium-235 to a maximum of 2 percent by mass, with a total plutonium and uranium-233 content not exceeding 0.002 percent of the mass of uranium, and with a minimum nitrogen to uranium atomic ratio (N/U) of 2. The material must be contained in at least a U.S. DOT Type A package; and

6. packages containing, individually, a total plutonium mass of not more than 1000 grams, of which not more than 20 percent by mass may consist of plutonium-239, plutonium-241, or any combination of these radionuclides.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2001 et seq.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Nuclear Energy Division, LR 13:569 (October 1987), amended by the Office of Environmental Assessment, LR 31:55 (January 2005), amended by the Office of the Secretary, Legal Affairs Division, LR 34:2106 (October 2008).

**§1506. Deliberate Misconduct**

**NOTE:** Former §1506 has been repealed.

**A.** This Section applies to any:

1. licensee;
2. certificate holder;
3. quality assurance program approval holder;
4. applicant for a license, certificate, or quality assurance program approval;
5. contractor (including a supplier or consultant) or subcontractor, to any person identified in Paragraph A.4 of this Section; or
6. employee of any person identified in Paragraph A.1, 2, 3, 4, or 5 of this Section.

**B.** A person identified in Subsection A of this Section who knowingly provides to any person listed in Paragraph A.1, 2, 3, 4, or 5 of this Section any component, material, or other goods or services that relate to a licensee's, a certificate holder's, a quality assurance program approval holder's, or an applicant's activities subject to this Chapter may not:

1. engage in deliberate misconduct that causes, or would have caused if not detected, a licensee, a certificate holder, a quality assurance program approval holder, or any applicant to be in violation of any rule, regulation, or order, or of any term, condition, or limitation of any license, certificate, or approval issued by the department; or

2. deliberately submit to the department, or to a licensee, a certificate holder, a quality assurance program approval holder, an applicant for a license, certificate, or quality assurance program approval, or a licensee's, an applicant's, a certificate holder's, or a quality assurance program approval holder's contractor or subcontractor, information that the person submitting the information knows to be incomplete or inaccurate in some respect.

**C.** A person who violates Subsection B of this Section may be subject to enforcement action in accordance with the procedures in LAC 33:XV.108.

**D.** For the purposes of Paragraph B.1 of this Section, *deliberate misconduct* by a person means an intentional act or omission that the person knows:

1. would cause a licensee, a certificate holder, a quality assurance program approval holder, or an applicant for a license, certificate, or quality assurance program approval to be in violation of any rule, regulation, or order, or of any term, condition, or limitation of any license or certificate issued by the department; or

2. constitutes a violation of a requirement, procedure, instruction, contract, purchase order, or policy of a licensee, a certificate holder, a quality assurance program approval holder, an applicant, or the contractor or subcontractor of any of them.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2104(B) and 2113.

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Office of the Secretary, Legal Affairs Division, LR 34:2107 (October 2008).

**§1507. General Licenses for Carriers**

Repealed.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2001 et seq.

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Nuclear Energy Division, LR 13:569 (October 1987), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:2602 (November 2000), repealed by the Office of the Secretary, Legal Affairs Division, LR 34:2107 (October 2008).

**§1508. General License: NRC Approved Packages**

**A.** A general license is issued to transport, or to deliver to a carrier for transport, licensed material in a package for which a license, certificate of compliance (CoC), or other approval has been issued by the department.

**B.** This general license applies only to a licensee who:

1. has a quality assurance program approved by the department as satisfying the provisions of 10 CFR Part 71, Subpart H;

2. has a copy of the specific license, certificate of compliance, or other approval of the package and has the drawings and other documents referenced in the approval relating to the use and maintenance of the packaging and to the actions to be taken prior to shipment;

3. complies with the terms and conditions of the license, certificate, or other approval, as applicable, and the applicable requirements of this Chapter; and

4. prior to the licensee's first use of the package, has registered with the U.S. NRC.

**C.** The general license in this Section applies only when the package approval authorizes use of the package under this general license.

**D.** For a Type B or fissile material package, the design of which was approved by the U.S. NRC before April 1, 1996, the general license is subject to additional restrictions of 10 CFR 71.19.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2001 et seq.

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Nuclear Energy Division, LR 13:569 (October 1987), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:1267 (June 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 34:2107 (October 2008).

**§1509. General License: DOT Specification Container**

[Formerly §1510]

**NOTE:** Former §1509 has been repealed.

**A.** A general license is issued to any licensee of the department to transport, or to deliver to a carrier for

transport, licensed material in a specification container for fissile material or for a Type B quantity of radioactive material as specified in the regulations of the U.S. DOT at 49 CFR Parts 173 and 178.

**B.** This general license applies only to a licensee who has a quality assurance program approved by the U.S. NRC as satisfying the provisions of 10 CFR Part 71, Subpart H.

**C.** This general license applies only to a licensee who:

1. has a copy of the specification; and
2. complies with the terms and conditions of the specification and the applicable requirements of this Chapter and of 10 CFR Part 71, Subparts A, G, and H.

**D.** This general license is subject to the limitation that the specification container may not be used for a shipment to a location outside the United States, except by multilateral approval, as defined in U.S. DOT regulations at 49 CFR 173.403.

**E.** This Section expires October 1, 2008.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2001 et seq.

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Nuclear Energy Division, LR 13:569 (October 1987), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:1268 (June 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 34:2107 (October 2008).

#### **§1510. General License: Use of Foreign Approved Package**

[Formerly §1511]

**NOTE:** Former §1510 has moved to §1509.

**A.** A general license is issued to any licensee of the department to transport, or to deliver to a carrier for transport, licensed material in a package the design of which has been approved in a foreign national competent authority certificate that has been revalidated by the U.S. DOT as meeting the applicable requirements of 49 CFR 171.12.

**B.** Except as otherwise provided in this Section, the general license applies only to a licensee who has a quality assurance program approved by the U.S. NRC as satisfying the applicable provisions of 10 CFR Part 71, Subpart H.

**C.** This general license applies only to shipments made to or from locations outside the United States.

**D.** This general license applies only to a licensee who:

1. has a copy of the applicable certificate, the revalidation, and the drawings and other documents referenced in the certificate relating to the use and maintenance of the packaging and to the actions to be taken prior to shipment; and
2. complies with the terms and conditions of the certificate and revalidation and with the applicable requirements of this Chapter and of 10 CFR Part 71, Subparts A, G, and H. With respect to the quality assurance

provisions of 10 CFR Part 71, Subpart H, the licensee is exempt from design, construction, and fabrication considerations.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2001 et seq.

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Nuclear Energy Division, LR 13:569 (October 1987), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:1268 (June 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 34:2108 (October 2008).

#### **§1511. General License: Fissile Material**

**NOTE:** Former §1511 has moved to §1510.

**A.** A general license is issued to any licensee of the department to transport fissile material, or to deliver fissile material to a carrier for transport, if the material is shipped in accordance with this Section. The fissile material need not be contained in a package that meets the standards of LAC 33:XV.1513; however, the material must be contained in a Type A package. The Type A package must also meet the U.S. DOT requirements of 49 CFR 173.417(a).

**B.** The general license applies only to a licensee who has a quality assurance program approved by the U.S. NRC as satisfying the provisions of 10 CFR Part 71, Subpart H.

**C.** The general license applies only when a package's contents:

1. contain no more than a Type A quantity of radioactive material; and
2. contain less than 500 total grams of beryllium, graphite, or hydrogenous material enriched in deuterium.

**D.** The general license applies only to packages containing fissile material that are labeled with a criticality safety index (CSI) that:

1. has been determined in accordance with Subsection E of this Section;
2. has a value less than or equal to 10; and
3. for a shipment of multiple packages containing fissile material, the sum of the CSIs is less than or equal to 50, for shipment on a nonexclusive use conveyance, or less than or equal to 100, for shipment on an exclusive use conveyance.

**E.** The following requirements must be met when determining the CSI.

1. The value for the CSI must be greater than or equal to the number calculated by the following equation.

$$CSI = 10 \left[ \frac{\text{grams of } ^{235}\text{U}}{X} + \frac{\text{grams of } ^{233}\text{U}}{Y} + \frac{\text{grams of Pu}}{Z} \right]$$



2. The calculated CSI must be rounded up to the first decimal place.

3. The values of X, Y, and Z used in the CSI equation must be taken from Tables 1 or 2 of this Section, as appropriate.

4. If Table 2 of this Section is used to obtain the value of X, then the values for the terms in the equation for uranium-233 and plutonium must be assumed to be zero.

5. Table 1 values for X, Y, and Z must be used to determine the CSI if:

- a. uranium-233 is present in the package;
- b. the mass of plutonium exceeds 1 percent of the mass of uranium-235;
- c. the uranium is of unknown uranium-235 enrichment or greater than 24 weight percent enrichment; or
- d. substances having a moderating effectiveness (i.e., an average hydrogen density greater than H<sub>2</sub>O) (e.g., certain hydrocarbon oils or plastics) are present in any form, except as polyethylene used for packing or wrapping.

Table 1 Mass Limits for General License Packages Containing Mixed Quantities of Fissile Material or Uranium-235 of Unknown Enrichment		
Fissile Material	Fissile material mass mixed with moderating substances having an average hydrogen density less than or equal to H <sub>2</sub> O (grams)	Fissile material mass mixed with moderating substances having an average hydrogen density greater than H <sub>2</sub> O <sup>a</sup> (grams)
<sup>235</sup> U (X)	60	38
<sup>233</sup> U (Y)	43	27
<sup>239</sup> Pu or <sup>241</sup> Pu (Z)	37	24
<sup>a</sup> When mixtures of moderating substances are present, the lower mass limits shall be used if more than 15 percent of the moderating substance has an average hydrogen density greater than H <sub>2</sub> O.		

Table 2 Mass Limits for General License Packages Containing Uranium-235 of Known Enrichment	
Uranium enrichment in weight percent of <sup>235</sup> U, not exceeding	Fissile material mass of <sup>235</sup> U (X) (grams)
24	60
20	63
15	67
11	72
10	76
9.5	78
9	81
8.5	82
8	85
7.5	88
7	90
6.5	93
6	97
5.5	102
5	108
4.5	114
4	120
3.5	132
3	150
2.5	180
2	246
1.5	408
1.35	480
1	1,020
0.92	1,800

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2104(B) and 2113.

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Office of the Secretary, Legal Affairs Division, LR 34:2108 (October 2008).

### **§1512. General License: Plutonium-Beryllium Special Form Material**

**NOTE:** Former §1512 has moved to §1515 and §1516.

A. A general license is issued to any licensee of the department to transport fissile material in the form of plutonium-beryllium (Pu-Be) special form sealed sources, or to deliver Pu-Be sealed sources to a carrier for transport, if the material is shipped in accordance with this Section. This material need not be contained in a package that meets the standards of LAC 33:XV.1513; however, the material must

be contained in a Type A package. The Type A package must also meet the U.S. DOT requirements of 49 CFR 173.417(a).

**B.** The general license applies only to a licensee who has a quality assurance program approved by the U.S. NRC as satisfying the provisions of 10 CFR Part 71, Subpart H.

**C.** The general license applies only when a package's contents:

1. contain no more than a Type A quantity of radioactive material; and
2. contain less than 1000 grams of plutonium, provided that plutonium-239, plutonium-241, or any combination of these radionuclides, constitutes less than 240 grams of the total quantity of plutonium in the package.

**D.** The general license applies only to packages labeled with a CSI that:

1. has been determined in accordance with Subsection E of this Section;
2. has a value less than or equal to 100; and
3. for a shipment of multiple packages containing Pu-Be sealed sources, the sum of the CSIs is less than or equal to 50, for shipment on a nonexclusive use conveyance, or less than or equal to 100, for shipment on an exclusive use conveyance.

**E.** The following requirements must be met when determining the CSI.

1. The value for the CSI must be greater than or equal to the number calculated by the following equation.

$$CSI = 10 \left[ \frac{\text{grams of } ^{239}\text{Pu} + \text{grams of } ^{241}\text{Pu}}{24} \right]$$

2. The calculated CSI must be rounded up to the first decimal place.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2104(B) and 2113.

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Office of the Secretary, Legal Affairs Division, LR 34:2109 (October 2008).

### **§1513. External Radiation Standards for all Packages**

**NOTE:** Former §1513 has moved to §1517.

**A.** Except as provided in Subsection B of this Section, each package of radioactive materials offered for transportation must be designed and prepared for shipment so that under conditions normally incident to transportation the radiation level does not exceed 2 mSv/h (200 mrem/h) at any point on the external surface of the package, and the transport index does not exceed 10.

**B.** A package that exceeds the radiation level limits specified in Subsection A of this Section must be transported

by exclusive use shipment only, and the radiation levels for such shipment must not exceed the following during transportation:

1. 2 mSv/h (200 mrem/h) on the external surface of the package, unless the following conditions are met, in which case the limit is 10 mSv/h (1000 mrem/h):

- a. the shipment is made in a closed transport vehicle;
- b. the package is secured within the vehicle so that its position remains fixed during transportation; and
- c. there are no loading or unloading operations between the beginning and end of the transportation;

2. 2 mSv/h (200 mrem/h) at any point on the outer surface of the vehicle, including the top and underside of the vehicle, or, in the case of a flat-bed style vehicle, at any point on the vertical planes projecting from the outer edges of the vehicle, on the upper surface of the load or enclosure, if used, and on the lower external surface of the vehicle; and

3. 0.1 mSv/h (10 mrem/h) at any point 2 meters (80 inches) from the outer lateral surfaces of the vehicle (excluding the top and underside of the vehicle), or, in the case of a flat-bed style vehicle, at any point 2 meters (6.6 feet) from the vertical planes projecting from the outer edges of the vehicle (excluding the top and underside of the vehicle); and

4. 0.02 mSv/h (2 mrem/h) in any normally occupied space, except that this provision does not apply to private carriers, if exposed personnel under their control wear radiation dosimetry devices in accordance with LAC 33:XV.431.

**C.** For shipments made under the provisions of Subsection B of this Section, the shipper shall provide specific written instructions to the carrier for maintenance of the exclusive use shipment controls. The instructions must be included with the shipping paper information.

**D.** The written instructions required for exclusive use shipments must be sufficient so that, when followed, they will cause the carrier to avoid actions that will unnecessarily delay delivery or unnecessarily result in increased radiation levels or radiation exposures to transport workers or members of the general public.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2104(B) and 2113.

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Office of the Secretary, Legal Affairs Division, LR 34:2109 (October 2008).

### **§1514. Assumptions as to Unknown Properties**

**NOTE:** Former §1514 has been repealed.

**A.** When the isotopic abundance, mass, concentration, degree of irradiation, degree of moderation, or any other pertinent property of fissile material in any package is not known, the licensee shall package the fissile material as if

the unknown property has a credible value that will cause the maximum neutron multiplication.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2104(B) and 2113.

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Office of the Secretary, Legal Affairs Division, LR 34:2110 (October 2008).

### **§1515. Preliminary Determinations**

**[Formerly §1512.A]**

**NOTE: Former §1515 has been repealed.**

**A.** Before the first use of any packaging for the shipment of licensed material, the licensee shall:

1. ascertain that there are no cracks, pinholes, uncontrolled voids, or other defects that could significantly reduce the effectiveness of the packaging;

2. where the maximum normal operating pressure will exceed 35 kPa (5 lbs/in<sup>2</sup>) gauge, test the containment system at an internal pressure at least 50 percent higher than the maximum normal operating pressure, to verify the capability of that system to maintain its structural integrity at that pressure; and

3. conspicuously and durably mark the packaging with its model number, serial number, gross weight, and a package identification number assigned by the U.S. NRC. Before applying the model number, the licensee shall determine that the packaging has been fabricated in accordance with the design approved by the U.S. NRC.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2001 et seq.

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Nuclear Energy Division, LR 13:569 (October 1987), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:1268 (June 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 34:2110 (October 2008).

### **§1516. Routine Determinations**

**[Formerly §1512.B]**

**NOTE: Former §1516 has moved to §1519.**

**A.** Prior to each shipment of licensed material, the licensee shall ensure that the package with its contents satisfies the applicable requirements of this Chapter and of the license. The licensee shall verify that:

1. the package is proper for the contents to be shipped;
2. the package is in unimpaired physical condition except for superficial defects such as marks or dents;
3. each closure device of the packaging, including any required gasket, is properly installed and secured and free of defects;
4. any system for containing liquid is adequately sealed and has adequate space or other specified provision for expansion of the liquid;

5. any pressure relief device is operable and set in accordance with written procedures;

6. the package has been loaded and closed in accordance with written procedures;

7. for fissile material, any moderator or neutron absorber, if required, is present and in proper condition;

8. any structural part of the package that could be used to lift or tie down the package during transport is rendered inoperable for that purpose unless it satisfies design requirements specified in 10 CFR 71.45;

9. the level of non-fixed (removable) radioactive contamination on the external surfaces of each package offered for shipment is as low as reasonably achievable and within the limits specified in U.S. DOT regulations at 49 CFR 173.443;

10. external radiation levels around the package and around the vehicle, if applicable, will not exceed the limits specified in LAC 33:XV.1513 at any time during transportation; and

11. accessible package surface temperatures shall not exceed the limits specified in 10 CFR 71.43(g) at any time during transportation.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2001 et seq.

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Nuclear Energy Division, LR 13:569 (October 1987), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:1268 (June 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 34:2110 (October 2008).

### **§1517. Air Transport of Plutonium**

**[Formerly §1513]**

**NOTE: Former §1517 has moved to §1599.A.**

**A.** Notwithstanding the provisions of any general licenses and notwithstanding any exemptions stated directly in this Chapter or included indirectly by citation of 49 CFR Chapter I, as may be applicable, the licensee shall assure that plutonium in any form, whether for import, export, or domestic shipment, is not transported by air or delivered to a carrier for air transport unless:

1. the plutonium is contained in a medical device designed for individual human application;

2. the plutonium is contained in a material in which the specific activity is less than or equal to the activity concentration values for plutonium specified in Table A-2 of 10 CFR Part 71, Appendix A, incorporated by reference in LAC 33:XV.1599.A, and in which the radioactivity is essentially uniformly distributed;

3. the plutonium is shipped in a single package containing not more than an A<sub>2</sub> quantity of plutonium in any isotope or form and is shipped in accordance with LAC 33:XV.1504; or

4. the plutonium is shipped in a package specifically authorized for the shipment of plutonium by air in the Certificate of Compliance for that package issued by the U.S. NRC.

**B.** Nothing in Subsection A of this Section is to be interpreted as removing or diminishing the requirements of 10 CFR 73.24.

**C.** For a shipment of plutonium by air that is subject to Paragraph A.4 of this Section, the licensee shall, through special arrangement with the carrier, require compliance with 49 CFR 175.704, U.S. DOT regulations, applicable to the air transport of plutonium.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2001 et seq.

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Nuclear Energy Division, LR 13:569 (October 1987), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:1268 (June 2000), amended by the Office of the Secretary, Legal Affairs Division, LR 34:2110 (October 2008).

#### **§1518. Opening Instructions**

**A.** Before delivery of a package to a carrier for transport, the licensee shall ensure that any special instructions needed to open the package safely have been sent to, or otherwise made available to, the consignee for the consignee's use in accordance with LAC 33:XV.455.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2104(B) and 2113.

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Office of the Secretary, Legal Affairs Division, LR 34:2111 (October 2008).

#### **§1519. Advance Notification of Shipment of Irradiated Reactor Fuel and Nuclear Waste**

[Formerly §1516]

**A.** As specified in Subsections B, C, and D of this Section, each licensee shall provide advance notification to the governor, or to the governor's designee, of the shipment of licensed material through, or across the boundary of, Louisiana before the transport, or delivery to a carrier for transport, of licensed material outside the confines of the licensee's plant or other place of use or storage. A list of the names and mailing addresses of the governors' designees receiving advance notification of transportation of nuclear waste was published in the *Federal Register* on June 30, 1995 (60 FR 34306), and the list will be published annually in the *Federal Register* on or about June 30 to reflect any changes in the information. The list of the names and mailing addresses of the governors' designees is also available on request from the Director, Office of State Programs, U.S. Nuclear Regulatory Commission, 11555 Rockville Pike, Washington, DC 20555. In Louisiana, the governor's designee is the Louisiana State Police, 7919 Independence Boulevard, Box 66614 (#A2621), Baton Rouge, LA 70896-6614.

**B.** Advance notification is required for shipments of irradiated reactor fuel in quantities less than that subject to

advance notification requirements of 10 CFR 73.37(f). Advance notification is also required for shipments of licensed material, other than irradiated fuel, meeting the following three conditions:

1. the licensed material is required to be in Type B packaging for transportation;

2. the licensed material is being transported to or across the boundary of the state en route to a disposal facility or to a collection point for transport to a disposal facility; and

3. the quantity of licensed material in a single package exceeds the least of the following:

a. for special form radioactive material, 3000 times the  $A_1$  value of the radionuclides as specified in Table A-1 of 10 CFR Part 71, Appendix A, incorporated by reference in LAC 33:XV.1599.A;

b. for normal form radioactive material, 3000 times the  $A_2$  value of the radionuclides as specified in Table A-1 of 10 CFR Part 71, Appendix A, incorporated by reference in LAC 33:XV.1599.A; or

c. 1000 TBq (27,000 Ci).

**C.** The following procedures shall be used to submit advance notification.

1. The notification must be made in writing to the governor or to the governor's designee and to the Director, Division of Nuclear Security, Office of Nuclear Security and Incident Response, U.S. Nuclear Regulatory Commission, 11555 Rockville Pike, Washington, DC 20555.

2. A notification delivered by mail must be postmarked at least seven days before the beginning of the seven-day period during which departure of the shipment is estimated to occur.

3. A notification delivered by any means other than mail must reach the office of the governor or the governor's designee at least four days before the beginning of the seven-day period during which departure of the shipment is estimated to occur.

4. The licensee shall retain a copy of the notification as a record for three years.

**D.** Each advance notification of shipment of irradiated reactor fuel or nuclear waste shall contain the following information:

1. the name, address, and telephone number of the shipper, carrier, and receiver of the irradiated reactor fuel or nuclear waste shipment;

2. a description of the irradiated reactor fuel or nuclear waste contained in the shipment, as specified in the regulations of U.S. DOT in 49 CFR 172.202 and 172.203(d);

3. the point of origin of the shipment, and the seven-day period during which departure of the shipment is estimated to occur;

4. the seven-day period during which arrival of the shipment at the boundary of the state is estimated to occur;

5. the destination of the shipment, and the seven-day period during which arrival of the shipment is estimated to occur; and

6. a point of contact, with a telephone number, for current shipment information.

**E.** A licensee who finds that schedule information previously furnished to the governor or to the governor's designee, in accordance with this Section, will not be met shall telephone a responsible individual in the office of the governor or of the governor's designee and inform that individual of the extent of the delay beyond the schedule originally reported. The licensee shall maintain a record of the name of the individual contacted for three years.

**F.** Each licensee who cancels an irradiated reactor fuel or nuclear waste shipment for which advance notification has been sent shall send a cancellation notice to the governor or to the governor's designee previously notified, and to the Director, Division of Nuclear Security, Office of Nuclear Security and Incident Response, U.S. Nuclear Regulatory Commission, 11555 Rockville Pike, Washington, DC 20555. The licensee shall state in the notice that it is a cancellation and identify the advance notification that is being canceled. The licensee shall retain a copy of the notice as a record for three years.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2104(B) and 2113.

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Nuclear Energy Division, LR 13:569 (October 1987), amended by the Office of Environmental Assessment, Environmental Planning Division, LR 26:1269 (June 2000), LR 26:2602 (November 2000), amended by the Office of Environmental Assessment, LR 30:2029 (September 2004), amended by the Office of the Secretary, Legal Affairs Division, LR 31:2537 (October 2005), LR 33:2190 (October 2007), LR 34:2111 (October 2008).

## **§1520. Quality Assurance**

### **A. Quality Assurance Requirements**

1. This Section describes quality assurance requirements applying to design, purchase, fabrication, handling, shipping, storing, cleaning, assembly, inspection, testing, operation, maintenance, repair, and modification of components of packaging that are important to safety. As used in this Section, "quality assurance" comprises all those planned and systematic actions necessary to provide adequate confidence that a system or component will perform satisfactorily in service. Quality assurance includes quality control, which comprises those quality assurance actions related to control of the physical characteristics and quality of the material or component in accordance with predetermined requirements. The licensee, certificate holder, and applicant for a CoC are responsible for the quality assurance requirements as they apply to design, fabrication, testing, and modification of packaging. Each licensee is responsible for the quality assurance provision that applies to its use of a packaging for the shipment of licensed

material subject to the quality assurance requirements of this Section.

2. Each licensee, certificate holder, and applicant for a CoC shall establish, maintain, and execute a quality assurance program that satisfies each of the applicable criteria of this Section and that satisfies any specific provisions that are applicable to the licensee's activities, including procurement of packaging. The licensee, certificate holder, and applicant for a CoC shall execute the applicable criteria in a graded approach to an extent that is commensurate with the quality assurance requirement's importance to safety.

3. Before using any package for the shipment of licensed material subject to this Section, each licensee shall obtain U.S. NRC approval of its quality assurance program. Using an appropriate method listed in 10 CFR 71.1(a), each licensee shall file a description of its quality assurance program, including a discussion of which requirements of this Section are applicable and how they will be satisfied, by submitting the description to the Document Control Desk, Director, Spent Fuel Project Office, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, 11555 Rockville Pike, Washington, DC 20555.

4. A U.S. NRC approved quality assurance program that satisfies the applicable criteria of 10 CFR Part 71, Subpart H, 10 CFR Part 50, Appendix B, or 10 CFR Part 72, Subpart G, and that is established, maintained, and executed regarding transport packages, will be accepted as satisfying the requirements of Paragraph A.2 of this Section. Before first use, the licensee, certificate holder, and applicant for a CoC shall notify the U.S. NRC, in accordance with 10 CFR 71.1, of its intent to apply its previously-approved Subpart H, Appendix B, or Subpart G quality assurance program to transportation activities. The licensee, certificate holder, and applicant for a CoC shall identify the program by date of submittal to the U.S. NRC, Docket Number, and date of U.S. NRC approval.

5. A program for transport container inspection and maintenance limited to radiographic exposure devices, source changers, or packages transporting these devices, and meeting the requirements of LAC 33:XV.547.B, is deemed to satisfy the requirements of LAC 33:XV.1507.B and Paragraph A.2 of this Section.

### **B. Quality Assurance Organization**

1. The licensee (or anyone who designs, fabricates, assembles, and tests the package before the package approval is issued), certificate holder, and applicant for a CoC shall be responsible for the establishment and execution of the quality assurance program. The licensee, certificate holder, and applicant for a CoC may delegate to others, such as contractors, agents, or consultants, the work of establishing and executing the quality assurance program, or any part of the quality assurance program, but shall retain responsibility for the program. The delegatable activities include performing the functions associated with attaining quality objectives and the quality assurance functions.

2. The quality assurance functions consist of assuring that an appropriate quality assurance program is established and effectively executed, and verifying, by procedures such as checking, auditing, and inspection, that activities affecting the functions that are important to safety have been correctly performed.

3. The person or organization performing quality assurance functions must be given sufficient authority and organizational freedom to:

- a. identify problems with quality;
- b. initiate, recommend, or provide solutions; and
- c. verify implementation of solutions.

4. A person or organization performing quality assurance functions must report to a management level that assures that the required authority and organizational freedom, including sufficient independence from cost and schedule factors, when opposed to safety considerations, are provided.

5. Because of the many variables involved, such as the number of personnel, the type of activity being performed, and the location(s) where activities are performed, the organizational structure for executing the quality assurance program may take various forms, provided that persons and organizations assigned the quality assurance functions have the required authority and organizational freedom.

6. Irrespective of the organizational structure, any individual assigned the responsibility for assuring effective execution of any portion of the quality assurance program, at any location where activities subject to this Section are being performed, must have direct access to the levels of management necessary to perform this function.

### C. Quality Assurance Program

1. The licensee, certificate holder, and applicant for a CoC shall establish, at the earliest practicable time consistent with the schedule for accomplishing the activities, a quality assurance program that complies with the requirements of this Section. The licensee, certificate holder, and applicant for a CoC shall document the quality assurance program by written procedures or instructions and shall carry out the program in accordance with those procedures throughout the period during which the packaging is used. The licensee, certificate holder, and applicant for a CoC shall identify the material and components to be covered by the quality assurance program, the major organizations participating in the program, and the designated functions of these organizations.

2. The licensee, certificate holder, and applicant for a CoC, through a quality assurance program, shall provide control over activities affecting the quality of the identified materials and components to an extent consistent with their importance to safety, and as necessary to assure conformance to the approved design of each individual package used for the shipment of radioactive material. The licensee, certificate holder, and applicant for a CoC shall assure that activities affecting quality are accomplished

under suitably controlled conditions. Controlled conditions include the use of appropriate equipment; suitable environmental conditions for accomplishing the activity, such as adequate cleanliness; and assurance that all prerequisites for the given activity have been satisfied. The licensee, certificate holder, and applicant for a CoC shall take into account the need for special controls, processes, test equipment, tools, and skills to attain the required quality, and the need for verification of quality by inspection and test.

3. The licensee, certificate holder, and applicant for a CoC shall base the requirements and procedures of the quality assurance program on the following considerations concerning the complexity and proposed use of the package and its components:

- a. the impact of malfunction or failure of the item on safety;
- b. the design and fabrication complexity or uniqueness of the item;
- c. the need for special control of, and surveillance over, processes and equipment;
- d. the degree to which functional compliance can be demonstrated by inspection or test; and
- e. the quality history and degree of standardization of the item.

4. The licensee, certificate holder, and applicant for a CoC shall provide for indoctrination and training of personnel performing activities affecting quality, as necessary to assure that suitable proficiency is achieved and maintained. The licensee, certificate holder, and applicant for a CoC shall review the status and adequacy of the quality assurance program at established intervals. Management of other organizations participating in the quality assurance program shall review regularly the status and adequacy of that part of the quality assurance program they are executing.

D. Handling, Storage, and Shipping Control. The licensee, certificate holder, and applicant for a CoC shall establish measures to control, in accordance with instructions, the handling, storage, shipping, cleaning, and preservation of materials and equipment to be used in packaging to prevent damage or deterioration. When necessary for particular products, special protective environments, such as an inert gas atmosphere and specific moisture content and temperature levels, must be specified and provided.

### E. Inspection, Test, and Operating Status

1. The licensee, certificate holder, and applicant for a CoC shall establish measures to indicate, by the use of markings such as stamps, tags, labels, or routing cards, or by other suitable means, the status of inspections and tests performed upon individual items of the packaging. These measures must provide for the identification of items that have satisfactorily passed required inspections and tests,

where necessary, to preclude inadvertent bypassing of the inspections and tests.

2. The licensee shall establish measures to identify the operating status of components of the packaging, such as tagging valves and switches, to prevent inadvertent operation.

**F. Nonconforming Materials, Parts, or Components.** The licensee, certificate holder, and applicant for a CoC shall establish measures to control materials, parts, or components that do not conform to the licensee's requirements in order to prevent their inadvertent use or installation. These measures must include, as appropriate, procedures for identification, documentation, segregation, disposition, and notification to affected organizations. Nonconforming items must be reviewed and accepted, rejected, repaired, or reworked in accordance with documented procedures.

**G. Corrective Action.** The licensee, certificate holder, and applicant for a CoC shall establish measures to assure that conditions adverse to quality, such as deficiencies, deviations, defective material and equipment, and nonconformances, are promptly identified and corrected. In the case of a significant condition adverse to quality, the measures must assure that the cause of the condition is determined and corrective action is taken to preclude repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective action taken must be documented and reported to appropriate levels of management.

**H. Quality Assurance Records.** The licensee, certificate holder, and applicant for a CoC shall maintain sufficient written records to describe the activities affecting quality. The records must include the instructions, procedures, and drawings required by 10 CFR 71.111 to prescribe quality assurance activities and must include closely related specifications such as required qualifications of personnel, procedures, and equipment. The records must include instructions or procedures that establish a records retention program that is consistent with applicable regulations and designates factors such as duration, location, and assigned responsibility. The licensee, certificate holder, and applicant for a CoC shall retain these records for three years beyond the date when the licensee, certificate holder, and applicant for a CoC last engaged in the activity for which the quality assurance program was developed. If any portion of the written procedures or instructions is superseded, the licensee, certificate holder, and applicant for a CoC shall retain the superseded material for three years after it is superseded.

**I. Audits.** The licensee, certificate holder, and applicant for a CoC shall carry out a comprehensive system of planned and periodic audits to verify compliance with all aspects of the quality assurance program and to determine the effectiveness of the program. The audits must be performed in accordance with written procedures or checklists by appropriately trained personnel not having direct responsibilities in the areas being audited. Audited results must be documented and reviewed by management having

responsibility in the area audited. Follow-up action, including re-audit of deficient areas, must be taken where indicated.

**AUTHORITY NOTE:** Promulgated in accordance with R.S. 30:2104(B) and 2113.

**HISTORICAL NOTE:** Promulgated by the Department of Environmental Quality, Office of the Secretary, Legal Affairs Division, LR 34:2112 (October 2008), repromulgated LR 34:2393 (November 2008).

**§1599. Appendix—Incorporation by Reference of 10 CFR Part 71, Appendix A, Tables A-1, A-2, A-3, and A-4; Procedures for Determining  $A_1$  and  $A_2$**

**[Formerly §1517]**

**A.** Tables A-1, A-2, A-3, and A-4 in 10 CFR Part 71, Appendix A, January 1, 2007, are hereby incorporated by reference. These tables are used to determine the values of  $A_1$  and  $A_2$ , as described in Subsections B-F of this Section.

**B.** Values of  $A_1$  and  $A_2$  for individual radionuclides, which are the bases for many activity limits elsewhere in these regulations, are given in Table A-1. The curie (Ci) values specified are obtained by converting from the Terabecquerel (TBq) value. The Terabecquerel values are the regulatory standard. The curie values are for information only and are not intended to be the regulatory standard. Where values of  $A_1$  and  $A_2$  are unlimited, the values are for radiation control purposes only. For nuclear criticality safety, some materials are subject to controls placed on fissile material.

**C.** For individual radionuclides whose identities are known, but which are not listed in Table A-1, the  $A_1$  and  $A_2$  values contained in Table A-3 may be used. Otherwise, the licensee shall obtain prior U.S. NRC approval of the  $A_1$  and  $A_2$  values for radionuclides not listed in Table A-1, before shipping the material. For individual radionuclides whose identities are known, but which are not listed in Table A-2, the exempt material activity concentration and exempt consignment activity values contained in Table A-3 may be used. Otherwise, the licensee shall obtain prior U.S. NRC approval of the exempt material activity concentration and exempt consignment activity values for radionuclides not listed in Table A-2, before shipping the material. The licensee shall submit the requests for prior approval described in this Subsection to the U.S. NRC, in accordance with 10 CFR 71.1.

**D.** In the calculations of  $A_1$  and  $A_2$  for a radionuclide not in Table A-1, a single radioactive decay chain, in which radionuclides are present in their naturally-occurring proportions, and in which no daughter radionuclide has a half-life either longer than 10 days, or longer than that of the parent radionuclide, shall be considered as a single radionuclide, and the activity to be taken into account, and the  $A_1$  or  $A_2$  value to be applied, shall be those corresponding to the parent radionuclide of that chain. In the case of radioactive decay chains in which any daughter radionuclide has a half-life either longer than 10 days, or greater than that of the parent radionuclide, the parent and

those daughter radionuclides shall be considered as mixtures of different radionuclides.

E. For mixtures of radionuclides whose identities and respective activities are known, the following conditions apply.

1. For special form radioactive material, the maximum quantity that may be transported in a Type A package is as follows.

$$\sum_i \frac{B(i)}{A_1(i)} \leq 1$$

where:

B(i) = the activity of radionuclide I  
A<sub>1</sub>(i) = the A<sub>1</sub> value for radionuclide I

2. For normal form radioactive material, the maximum quantity that may be transported in a Type A package is as follows.

$$\Sigma B(i)/A_2(i) \leq 1$$

where:

B(i) = the activity of radionuclide i  
A<sub>2</sub>(i) = the A<sub>2</sub> value for radionuclide i

3. Alternatively, the A<sub>1</sub> value for mixtures of special form material may be determined as follows.

$$A_1 \text{ for mixture} = \frac{1}{\sum_i \frac{f(i)}{A_1(i)}}$$

where:

f(i) = the fraction of activity for radionuclide I in the mixture  
A<sub>1</sub>(i) = the appropriate A<sub>1</sub> value for radionuclide I

4. Alternatively, the A<sub>2</sub> value for mixtures of normal form material may be determined as follows.

$$A_2 \text{ for mixture} = \frac{1}{\sum_i \frac{f(i)}{A_2(i)}}$$

where:

f(i) = the fraction of activity for radionuclide I in the mixture

A<sub>2</sub>(i) = the appropriate A<sub>2</sub> value for radionuclide I

$$\text{Exempt activity concentration for mixture} = \frac{1}{\sum_i \frac{f(i)}{[A](i)}}$$

5. The exempt activity concentration for mixtures of nuclides may be determined as follows.

where:

f(i) = the fraction of activity concentration of radionuclide I in the mixture  
[A] = the activity concentration for exempt material containing radionuclide I

$$\text{Exempt consignment activity limit for mixture} = \frac{1}{\sum_i \frac{f(i)}{A(i)}}$$

6. The activity limit for an exempt consignment for mixtures of radionuclides may be determined as follows.

where:

f(i) = the fraction of activity of radionuclide I in the mixture  
A = the activity limit for exempt consignments for radionuclide I

F. When the identity of each radionuclide is known, but the individual activities of some of the radionuclides are not known, the radionuclides may be grouped, and the lowest A<sub>1</sub> or A<sub>2</sub> value, as appropriate, for the radionuclides in each group may be used in applying the formulas in Subsection E. Groups may be based on the total alpha activity and the total beta/gamma activity when these are known, using the lowest A<sub>1</sub> or A<sub>2</sub> values for the alpha emitters and beta/gamma emitters.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2104 and 2113.

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